CRWMS/M&O

Design Analysis Cover Sheet

Complete only applicable items.

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	Print Name	Signature	Date
9. Originator	Thomas L. Lotz		12/5/95
10. Checker	Hongyan Wang		12/5/95
11. Lead Design Engineer	Thomas W. Doering		12/5/95
12. QA Manager	Joe W. Willis		12-6-95
13. Department Manager	Hugh A. Benton		12/18/95
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1. Purpose

This analysis is prepared by the Mined Geologic Disposal System (MGDS) Waste Package Development Department (WPDD) as specified in the Waste Package Implementation Plan (pp. 4-8, 4-11, 4-24, 5-1, and 5-13; Ref. 5.10) and Waste Package Plan (pp. 3-15, 3-17, and 3-24; Ref. 5.9). The design data request addressed herein is:

- 1) Characterize the conceptual 21 pressurized water reactor (PWR) uncanistered fuel (UCF) waste package (WP) to show that the design is feasible for use in the MGDS environment.

The purpose of this analysis is to respond to a concern that the long-term disposal thermal issues for the UCF waste package do not preclude UCF waste package compatibility with the MGDS. The objective of this analysis is to provide thermal parameter information for the conceptual UCF WP design under nominal MGDS repository conditions. The results are intended to show that the design has a reasonable chance to meet the MGDS design requirements for normal MGDS operation and to provide the required guidance to determining the major design issues for future design efforts. Future design efforts will focus on UCF design changes as further design and operations information becomes available.

2. Quality Assurance

The Quality Assurance (QA) program does apply to this analysis. The information in this analysis concerning disposal long-term thermal parameters for the conceptual UCF WP will be used as a guide as to the possible requirements which might be used in the final UCF WP design. The performance of the UCF internals will affect the proper function of the waste package and the waste package has been identified as a MGDS Q-List item important to safety (p. 5, Ref. 5.4). The waste package is on the Q-List by direct inclusion by DOE without conducting a QAP-2-3 evaluation. The work performed for this analysis is covered by reference 5.2, Perform Criticality, Thermal, Structural, and Shielding Analysis, which is part of the WPDD QAP-2-0 Work Control evaluation documents. This QAP-2-0 evaluation determined such activities are subject to Quality Assurance Requirements and Description (QARD) (Ref. 5.3) requirements. Applicable procedural controls are listed in the evaluation.

All design inputs which are identified in this document are for pre-Title II (conceptual or preliminary) designs; some or all of these design inputs will require subsequent qualification (or superseding inputs) as the waste package design proceeds. For design documents subject to the QARD requirements, unqualified design inputs must be considered as TBV (to be verified) items subject to tracking, in accordance with applicable procedures. The design inputs identified and documented in Section 4 have been assigned the single tracking number TBV-216-WPD, to meet tracking requirements.

3. Method

The analytical method to be employed is Finite Element Analysis (FEA). The analysis will build upon the Emplacement Scale Thermal Evaluations (Ref. 5.13) and the thermal conductivity analysis used in reference 5.40, by using the same method for SNF thermal modeling and the results for the WP surface temperatures from the three-dimensional emplacement scale model. Thus, the PWR UCF internals will be modeled with the spent nuclear fuel (SNF) approximated by a homogeneous material property region based upon the B&W Mark B4 PWR fuel assembly data (pp. 2A-7, 2A-8, Ref. 5.12 and p. 26, Ref. 5.39) and the SNF effective thermal values provided in reference 5.40. Peak SNF cladding temperatures will also be determined using the Wootton-Epstein Correlation (Ref. 5.14) for comparison purposes. The calculation shall be performed as a transient analysis to evaluate the first 1000 years of proposed repository operation.

4. Design Inputs

All design inputs are for pre-Title II designs; some or all of these design inputs will require subsequent qualification (or superseding inputs) as the waste package design proceeds. The design inputs identified and documented in Section 4 have been assigned the single tracking number TBV-216-WPD, to meet tracking requirements in accordance with applicable procedures.

4.1 Design Parameters

Tables 4.1-1 and 4.1-2 list the material and thermal properties of density, emissivity, thermal conductivity, and specific heat of stainless steel 316 (see assumption 4.3.23). The density of 316 stainless steel provided in Table 4.1-1 was taken from Table 17 of the Metals Handbook (p. 423, Ref. 5.18). The emissivity provided in Table 4.1-1 was taken from Table 4.3.2 of Marks' Handbook (p. 4-68, Ref. 5.17) and is about average for heated stainless steel 316.

Table 4.1-1. Material Properties of Stainless Steel 316 (Refs. 5.17 and 5.18)

	Density	Emissivity
Stainless Steel 316	8000.0 kg/m ³	0.60

Table 4.1-2 lists the thermal properties of stainless steel 316. Values for thermal conductivity and thermal diffusivity of stainless steel 316 (Cr-Ni-Mo) were taken from Table I-4.0, Appendix I of the 1986 ASME Boiler and Pressure Vessel Code (p. 97, Ref. 5.15) and are converted here to conductivity and specific heat in SI units. The conversion of thermal diffusivity (defined in equation 4.1-1 below) to specific heat requires the density listed in Table 4.1-1.

$$\text{Thermal Diffusivity}(\text{ft}^2/\text{hr}) = \frac{\text{Thermal Conductivity}(\text{Btu}/\text{hr}\cdot\text{ft}\cdot^\circ\text{F})}{\text{Density}(\text{lb}/\text{ft}^3) \times \text{Specific Heat}(\text{Btu}/\text{lb}\cdot^\circ\text{F})} \quad (\text{Equation 4.1-1})$$

Table 4.1-2. Thermal Properties of Stainless Steel 316 (Ref. 5.15)

Temperature		Thermal Conductivity (Btu/hr-ft-°F)	Thermal Diffusivity (ft²/hr)	Thermal Conductivity (W/m-K)	Specific Heat (J/kg-K)
°F	°C				
70	21.11	7.7	0.134	13.33	481.68
100	37.78	7.9	0.136	13.67	486.92
150	65.56	8.2	0.138	14.19	498.09
200	93.33	8.4	0.141	14.54	499.38
250	121.11	8.7	0.143	15.06	509.98
300	148.89	9.0	0.145	15.58	520.29
350	176.67	9.2	0.148	15.92	521.07
400	204.44	9.5	0.151	16.44	527.38
450	232.22	9.8	0.153	16.96	536.92
500	260.00	10.0	0.156	17.31	537.34
550	287.78	10.3	0.159	17.83	543.02
600	315.56	10.5	0.162	18.17	543.31
650	343.33	10.7	0.164	18.52	546.91
700	371.11	11.0	0.167	19.04	552.14
750	398.89	11.2	0.170	19.38	552.26
800	426.67	11.5	0.173	19.90	557.22
850	454.44	11.7	0.176	20.25	557.25
900	482.22	12.0	0.178	20.77	565.11
950	510.00	12.2	0.181	21.11	565.01
1000	537.78	12.4	0.184	21.46	564.91
1050	565.56	12.7	0.186	21.98	572.35
1100	593.33	12.9	0.189	22.33	572.14
1150	621.11	13.1	0.191	22.67	574.92
1200	648.89	13.3	0.194	23.02	574.68
1250	676.67	13.6	0.196	23.54	581.64
1300	704.44	13.8	0.199	23.88	581.30
1350	732.22	14.0	0.201	24.23	583.86
1400	760.00	14.2	0.203	24.58	586.36
1450	787.78	14.4	0.206	24.92	585.96
1500	815.56	14.6	0.208	25.27	588.39

Table 4.1-3. Thermal Properties of A 516 Carbon Steel (Ref. 5.15)

Temperature		Thermal Conductivity (Btu/hr-ft-°F)	Thermal Diffusivity (ft ² /hr)	Thermal Conductivity (W/m-K)	Specific Heat (J/kg-K)
°F	°C				
70	21.11	23.6	0.454	40.84	428.72
100	37.78	23.9	0.443	41.36	444.95
150	65.56	24.2	0.433	41.88	460.94
200	93.33	24.4	0.422	42.23	476.87
250	121.11	24.4	0.414	42.23	486.08
300	148.89	24.4	0.406	42.23	495.66
350	176.67	24.3	0.396	42.06	506.09
400	204.44	24.2	0.386	41.88	517.07
450	232.22	23.9	0.375	41.36	525.64
500	260.00	23.7	0.364	41.02	536.99
550	287.78	23.4	0.355	40.50	543.63
600	315.56	23.1	0.346	39.98	550.62
650	343.33	22.7	0.333	39.29	562.21
700	371.11	22.4	0.320	38.77	577.32
750	398.89	22.0	0.308	38.08	589.10
800	426.67	21.7	0.298	37.56	600.57
850	454.44	21.2	0.286	36.69	611.35
900	482.22	20.9	0.274	36.17	629.09
950	510.00	20.5	0.262	35.48	645.12
1000	537.78	20.0	0.248	34.61	665.12
1050	565.56	19.6	0.237	33.92	682.07
1100	593.33	19.2	0.228	33.23	694.52
1150	621.11	18.7	0.213	32.36	724.07
1200	648.89	18.2	0.197	31.50	761.95
1250	676.67	17.5	0.179	30.29	806.31
1300	704.44	16.7	0.155	28.90	888.60
1350	732.22	15.8	0.119	27.35	1095.04
1400	760.00	15.3	0.077	26.48	1638.78
1450	787.78	15.1	0.154	26.13	808.68
1500	815.56	15.1	0.169	26.13	736.90

Table 4.1-3 lists the thermal properties of A 516 carbon steel (see assumption 4.3.24). Values for thermal conductivity and thermal diffusivity of A 516 (C-Mn-Si) were taken from Table I-4.0, Appendix I of the 1986 ASME Boiler and Pressure Vessel Code (p. 97, Ref. 5.15) and are converted here to conductivity and specific heat in SI units. The conversion of thermal diffusivity (defined in equation 4.1-1) to specific heat requires the density listed in Table 4.1-4.

Table 4.1-4 lists the density and emissivity of A 516 carbon steel. The density of A 516 (C-Mn-Si) was taken from Table A.1 of a standard heat transfer text (p. 670, Ref. 5.16) and the emissivity (average for smooth oxidized iron) was taken from Table 4.3.2 of Marks' Handbook (p. 4-68, Ref. 5.17).

Table 4.1-4. Material Properties of A 516 Carbon Steel (Refs. 5.16 and 5.17)

	Density	Emissivity
A 516 Carbon Steel	8131.0 kg/m ³	0.80

Tables 4.1-5 and 4.1-6 list the material and thermal properties of density, emissivity, thermal conductivity, and specific heat of Alloy 825 (see assumption 4.3.25). The density of Alloy 825 (Ni-Fe-Cr-Mo-Cu) provided in Table 4.1-5 was taken from the product specifications published by the manufacturer; Huntington Alloys (p. 31, Ref. 5.19). The emissivity of Alloy 825 (Ni-Fe-Cr-Mo-Cu) provided in Table 4.1-5 was taken from the LLNL report on the Thermal Performance of a Buried Nuclear Waste Storage Container Storing a Hybrid Mix of PWR and BWR Spent Fuel Rods (p. 15, Ref. 5.20).

Table 4.1-5. Material Properties of Alloy 825 (Refs. 5.19 and 5.20)

	Density	Emissivity
Alloy 825	8137.9 kg/m ³	0.80

Table 4.1-6 lists the thermal properties of Alloy 825. Values for thermal conductivity and thermal diffusivity of Alloy 825 (Ni-Fe-Cr-Mo-Cu) were taken from Table I-4.0, Appendix I of the 1986 ASME Boiler and Pressure Vessel Code (p. 97, Ref. 5.15) and are converted here to conductivity and specific heat in SI units. The conversion of thermal diffusivity (defined in equation 4.1-1) to specific heat requires the density listed in Table 4.1-5.

Table 4.1-6. Thermal Properties of Alloy 825 (Ref. 5.15)

Temperature		Thermal Conductivity (Btu/hr-ft-°F)	Thermal Diffusivity (ft²/hr)	Thermal Conductivity (W/m-K)	Specific Heat (J/kg-K)
°F	°C				
200	93.33	7.1	0.127	12.29	460.69
250	121.11	7.3	0.126	12.63	477.42
300	148.89	7.6	0.125	13.15	501.02
350	176.67	7.9	0.129	13.67	504.65
400	204.44	8.1	0.134	14.02	498.12
450	232.22	8.4	0.133	14.54	520.45
500	260.00	8.6	0.132	14.88	536.88
550	287.78	8.9	0.131	15.40	559.85
600	315.56	9.1	0.130	15.75	576.83
650	343.33	9.3	0.133	16.10	576.21
700	371.11	9.6	0.136	16.61	581.68
750	398.89	9.8	0.135	16.96	598.20
800	426.67	10.0	0.133	17.31	619.58
850	454.44	10.2	0.132	17.65	636.76
900	482.22	10.4	0.131	18.00	654.20
950	510.00	10.7	0.130	18.52	678.25
1000	537.78	10.9	0.129	18.86	696.29
1050	565.56	11.1		19.21	
1100	593.33	11.4		19.73	
1150	621.11	11.6		20.08	
1200	648.89	11.8		20.42	
1250	676.67	12.1		20.94	
1300	704.44	12.4		21.46	
1350	732.22	12.7		21.98	
1400	760.00	12.9		22.33	
1450	787.78	13.3		23.02	
1500	815.56	13.6		23.54	

Table 4.1-7 lists the thermal properties of helium (see assumption 4.3.22). Values for thermal conductivity and thermal diffusivity of helium were taken from Table A.4, Appendix A of a standard heat transfer text (p. 683, Ref. 5.16). Indicated values were linearly interpolated from the data supplied in the reference.

Table 4.1-7. Thermal Properties of Helium (Ref. 5.16)

Temperature		Helium Density at 1 atm. (kg/m ³)	Thermal Conductivity (W/m·K)	Specific Heat (J/kg·K)
K	°C			
260	-13.15	0.1875	0.137	5193.0
280	6.85	0.1750*	0.145	5193.0
300	26.85	0.1625	0.152	5193.0
350	76.85	0.1422*	0.170	5193.0
400	126.85	0.1219	0.187	5193.0
450	176.85	0.1097*	0.204	5193.0
500	226.85	0.0975	0.220	5193.0
550	276.85	0.0906*	0.236*	5193.0
600	326.85	0.0836*	0.252	5193.0
650	376.85	0.0767*	0.264	5193.0
700	426.85	0.0697	0.278	5193.0
750	476.85	0.0662*	0.291	5193.0
800	526.85	0.0627*	0.304	5193.0
900	626.85	0.0558*	0.330	5193.0
1000	726.85	0.0488	0.354	5193.0

* Values marked with an * were linearly interpolated from the table because values were not given.

Table 4.1-8 lists the thermal properties of aluminum-boron alloy (see assumption 4.3.26). Values for thermal conductivity and thermal diffusivity for aluminum-boron alloy were taken from Table 3 of a report by Properties Research Laboratory on the thermal conductivity of aluminum-boron alloy (p. 4, Ref. 5.21). The emissivity of aluminum-boron alloy is assumed to be equivalent to that of a rough plate of aluminum (see assumption 4.3.26). The emissivity of a rough plate of aluminum at 26°C is 0.07 as reported in Table 4.3.2 of Marks' Handbook (p. 4-68, Ref. 5.17).

Table 4.1-8. Thermal Properties of Aluminum-Boron Alloy (Ref. 5.21)

Temperature		Al-B Alloy Density (kg/m ³)	Thermal Conductivity (W/m·K)	Specific Heat (J/kg·K)
K	°C			
296.15	23.0		182.56	868.0
323.15	50.0	2693.0	190.17	903.0
373.15	100.0		199.22	946.0
423.15	150.0		202.91	976.0
473.15	200.0		203.72	998.0

Table 4.1-9 lists the thermal properties of C71500 70/30 copper-nickel alloy (see assumption 4.3.27). Values for thermal conductivity for C71500 70/30 copper-nickel alloy were taken from Tables 2-46 and 2-48 of a report issued by Yucca Mountain Site Characterization Project which provided basic design data (p. 44, Ref. 5.22). The density and specific heat of C71500 70/30 copper-nickel alloy were taken from Table 2-46 of the same report (p. 43, Ref. 5.22).

Table 4.1-9. Thermal Properties of C71500 70/30 Copper-Nickel Alloy (Ref. 5.22)

Temperature		C71500 Density (lb/in ³)	C71500 Density (kg/m ³)	Thermal Conductivity (Btu/ hr·ft ² ·°F)	Thermal Conductivity (W/m·K)	Specific Heat (Btu/ lb·°F)	Specific Heat (J/kg·K)
°F	°C						
68.0	20	0.323	8940.64	17.0	29.42	0.09	376.79
212.0	100			16.9	29.25		
392.0	200			19.7	34.09		
572.0	300			22.3	38.59		
752.0	400			24.9	43.09		
832.0	500			27.8	48.11		
1112.0	600			30.7	53.13		
1292.0	700			33.6	58.15		

4.2 Criteria

The design of the engineered barrier segment (EBS) will depend on thermal analyses of the repository host rock and near-field. Criteria that relate to the thermal analysis of the EBS are derived from the applicable requirements and planning documents. Upper-level systems requirements are provided in the Mined Geologic Disposal System Requirements Document (MGDS-RD) (Ref. 5.6). The requirements flow down to the Engineered Barrier Design Requirements Document (EB-DRD, Ref. 5.5) as specific requirements for engineered barrier segment design. The Waste Package Implementation Plan (WPIP) (Ref. 5.10) also provides criteria and goals for the thermal design of the EBS. The criteria applicable to thermal analysis of waste package emplacement are equivalent to the applicable requirements, interface requirements, and criteria cited in the MGDS-RD, EB-DRD, WPIP and all requirements which apply to thermal analysis are listed in this section for completeness.

4.2.1 MGDS-RD Requirements for Thermal Design

The criteria applicable to thermal analysis of waste package emplacement which appear in the MGDS-RD (pp. 29, 44, 107; Ref. 5.6) but do not appear in the EB-DRD are listed here:

"3.1.5 Major Considerations and Assumptions

...

- M. It is assumed that loaded MPCs emplaced for disposal will have a maximum thermal output of 14.2 kilowatts. Accommodation of this condition will require management of the waste delivery schedule or storage of loaded MPCs with a higher thermal output until the thermal output has decreased to 14.2 kilowatts. This 14.2 kilowatts is equivalent to the thermal output of 21 PWR assemblies with 40 GWd/MTU burnup and 3.75% initial enrichment 10 years after discharge from a reactor. (Twenty-one assemblies represents the capacity of one of several potential MPC configurations.)"

"3.2.3.2.3 MGDS-Transportation Interface Requirements

...

- J. The MGDS shall provide an emplacement environment (e.g., waste package design, underground facility design, emplacement mode or orientation, spacing between waste packages, etc.) for the MPC with disposal container, such that an emplaced waste package with thermal output of 14.2 kW will not result in an MPC surface temperature higher than 225°C <TBR> [Ref 2.4.2.C][RW-0199][10 CFR 60.135(a)(2)][Derived by 3.2.1.1.H]

The MPC Design is responsible for maintaining the peak SNF cladding temperature below the maximum temperature designated for disposal. To meet this requirement, the peak cladding temperature in a loaded MPC with a thermal output of 14.2 kW may not exceed 350°C when subjected to an MPC external wall temperature of 225°C."

"3.7.3.3 Waste Package Requirements

...

- B.2. Waste packages shall be emplaced in an environment (e.g., waste package design, underground facility design, emplacement mode or orientation, spacing between waste packages, etc.), such that SNF cladding temperatures in an emplaced waste package do not exceed 350 °C <TBR>. [10 CFR 60.135(a)(2)][Derived by CRD 3.2.1.1.H]"

4.2.2 EB-DRD Requirements for Thermal Design

The criteria applicable to thermal analysis of waste package emplacement are equivalent to the applicable requirements in the EB-DRD (pp. 3-10, 3-14, 3-21, 3-23, 3-25, 3-26, 3-47, 3-49, 3-50, 3-53, and 3-54; Ref. 5.5) and are listed here:

"3.1.5 MAJOR CONSIDERATIONS AND ASSUMPTIONS

...

- B. The assumption used in developing this EB-DRD is that the extent of blending (i.e., the mixing in waste packages of SNF and/or HLW of different thermal outputs) required is limited to that which can be accommodated by the WA process.

Thermal loading studies will determine the extent of blending that must occur. Limited blending can be accomplished at the MRS through the WA process. If significant blending is required, this could have a major impact on the MRS and/or MGDS design and operations, and will be the subject of system studies. If these studies show that changes in system design requirements are necessary, the RDs will be revised."

"3.2.2 RADIOLOGICAL PROTECTION

3.2.2.1 GENERAL REQUIREMENTS

...

- C. The Engineered Barrier Segment, together with the Repository Segment, shall provide adequate shielding from radioactive components and high ambient temperatures. [Derived]"

"3.2.3.3 ENGINEERED BARRIER SEGMENT - REPOSITORY SEGMENT
INTERFACE REQUIREMENTS

...
A.8. The Repository Segment will accommodate the emplacement concept (TBD) selected during ACD. [Derived]

...
b. The Repository Segment design will prevent free-liquid-phase water from contacting the waste package during the period from package insertion until repository closure. [Derived]

c. The Repository Segment layout will be designed so that a combination of characteristics will assist in keeping liquid water from contacting the waste packages for the first 300 to 1000 (TBV) years after closure. [Derived]

d. The Repository Segment layout will also ensure that the design limit temperatures (TBD) for waste forms are not exceeded. [Derived]

...
A.10 If the design requires the waste form to be transferred for any purpose (such as from shipping casks to waste packages), the Repository Segment is responsible for the following:

...
b. Repository Segment options at the surface handling facility will be designed so that cladding failure from mechanical abrasion or deformation considering thermally-induced effects will result in less than five percent (TBV) cladding strain. [Derived]

...
A.17 The underground facility will be designed so that the performance objectives will be met taking into account the predicted thermal and thermo-mechanical response of the host rock, and surrounding strata, and ground water system. [MGDS-RD 3.7.3.4.C][10 CFR 60.133(i)]"

"3.2.3.4 ENGINEERED BARRIER SEGMENT - WASTE ACCEPTANCE
INTERFACE REQUIREMENTS

...
A. WA will provide standard HLW meeting the following criteria:

...
1.e. Total heat generation rate: Up to 1500 watts per canister (TBV) at the year of shipment.

- 1.f. Waste temperature: Will not have exceeded 400°C (TBV) during transit to ensure the glass transition temperature was not exceeded. [MGDS-RD 3.2.3.2.2.B.1]

...

C. WA will provide standard SNF meeting the following criteria:

- 1.b. Cross-section: 6 inches x 6 inches or less for BWR and 9 inches x 9 inches or less for PWR (TBV). [MGDS-RD 3.2.3.2.2.A.1][10 CFR 961.11, App. E, B.1]

- 1.d. Cooling: The minimum cooling time for fuel is five (5) years. [MGDS-RD 3.2.3.2.2.A.1][10 CFR 961.11, App. E, B.3]

- 1.f. Consolidated Fuel Rods: Fuel which has been disassembled and stored with the fuel rods in a consolidated manner shall be classified as Nonstandard Fuel Class NS-5. [MGDS-RD 3.2.3.2.2.A.1][10 CFR 961.11, App E., B.5]

- 2. Temperature will not have exceeded 350°C (TBV) during storage under inert gas. [Derived]"

"3.7 ENGINEERED BARRIER SEGMENT MAJOR COMPONENT CHARACTERISTICS/REQUIREMENTS

The major components of the Engineered Barrier Segment are the waste packages, the underground facility, any backfill placed in the emplacement drifts, and any emplacement hardware provided to support and protect the emplaced waste package. (The underground facility portion of the Engineered Barrier Segment and the associated requirements allocated to the EB-DRD by the MGDS-RD are identified as interfaces with the Repository Segment in Section 3.2.3.3.) These major components shall be capable of contributing to the assigned function, Isolate Waste (1.4.3), by containing waste in the waste package during the containment period of 300 to 1,000 years (TBR), and then by limiting the release of radionuclides during the post-containment period.

[MGDS-RD 3.7.3.1.A, B] [CRD 3.7.4.1.1]

- G. To limit the predicted thermal and thermo-mechanical response of the host rock and surrounding strata, and groundwater system, the Engineered Barrier Segment configuration and loading shall:

1. Limit borehole wall temperature (if a borehole is used) to 275°C (TBV)
2. Limit the maximum temperature 1 meter into the rock to 200°C (TBV)
3. Limit the TSw3 (vitrophyre tuff) maximum temperature to 115°C (TBV)
4. Limit the maximum ground surface temperature change in the vicinity of the repository to 6°C (TBV)
5. Limit the emplacement drift maximum temperature to 100°C (TBV)
6. Limit the access drift maximum temperature to 50°C (TBV)

[MGDS-RD 3.7.3.4.C] [10 CFR 60.133(i)]"

"3.7.1 WASTE PACKAGE SUBSYSTEM REQUIREMENTS

- ...
- B. The design of waste packages shall include, but not limited to, consideration of the following factors: solubility, oxidation/reduction reactions, corrosion, hydriding, gas generation, thermal effects, mechanical strength, mechanical stress, radiolysis, radiation damage, radionuclide retardation, leaching, fire and explosion hazards, thermal loads, and synergistic interactions.
[MGDS-RD 3.7.3.3.B] [10 CFR 60.135(a)(2)]"

"3.7.1.3 INTERNAL STRUCTURE REQUIREMENTS

- ...
- G. The internal structure shall maintain functionality under the thermal and chemical conditions generated by the waste form.
[Derived]"

"3.7.2 BACKFILL REQUIREMENTS

- ...
- C. The transfer of heat from the waste package to the geologic setting by the backfill material shall not have an adverse effect on the long term performance of the WP.
[Derived]

- ...
- F. The chemical and mechanical stability of the backfill when subjected to the maximum thermal environment anticipated in the repository shall not have an adverse effect on the long term performance of the waste package. [Derived]"

4.2.3 WPIP Criterion for Thermal Design

The impetus to perform thermal evaluations of the waste package and near-field is provided by the Waste Package Implementation Plan (WPIP, Ref. 5.10). Design goals and the activities supporting these goals are listed in the WPIP. The source of the design goals is, for the most part, the Engineered Barrier Design Requirements Document and for the remainder the design goals were selected based upon engineering judgement. Design goals related to thermal analysis are listed in Section 2.4 of the WPIP (p. 2-4; Ref. 5.10) and provide basic thermal criteria for the design of the EBS:

"2.4 DESIGN GOALS

- ...
- Center line fuel pin temperature limit of (to be determined (TBD)) °C
 - Rock wall temperature limit of (TBD) °C
 - Thermal loading of the repository (TBD)

...

The maximum temperature of the glass waste forms must be maintained below limits established for them. This limit is about 500°C (to be verified) for West Valley Defense High-Level Waste glass. The YMP and the glass producers have the responsibility to maintain the peak temperature below the transition temperature.

- ...
- Meet temperature limits for components
 - Provide for a range of thermal loads
 - Provide capability to adjust repository thermal loading after emplacement"

Activities to support the design goals related to thermal analysis are indicated in Sections 3.4, 4.5, and 5.1 of the WPIP (pp. 3-2, 4-31, and 5-1; Ref. 5.10):

"3.4 PERFORMANCE ALLOCATION

... Thermal analyses will be performed to determine the temperature profiles across the drifts for drift emplacement. Limited thermal analyses will also be performed for the borehole emplacement modes, assuming various package sizes

and thermal loadings. These analyses will permit the re-evaluation of the goals given in the SCP for performance measures. ..."

"4.5 ENVIRONMENTAL INFORMATION NEEDS

...

4.5.2 Hydrologic Properties

Determine hydrologic (and thermal) properties of the WP environment in order to:

- Develop comprehensive model of the thermal and hydrologic behavior of the waste package environment as a function of overall repository thermal loading and rock properties, including two phase fluid flow.
- Use the model to forecast the near field temperature and fluid flow; these near field parameters will be used by the M&O Waste Package Development, M&O PA, and LLNL to calculate/forecast the WP temperatures (surface and centerline) and the distribution of corrosion rates and package lifetimes (as input to the models determined by the chemical and mineralogical properties investigation described above)."

"5.1 WP/EBS DESIGN ACTIVITIES

...

2. Thermal Evaluation (time dependent)
 - 2.1. Internal
 - 2.1.1. SNF and HLW
 - 2.1.2. WP basket
 - 2.1.3. WP internal barrier(s)
 - 2.1.4. WP body
 - 2.1.5. Closure
 - 2.2. External, EBS and near field
 - 2.3. Receipt rate and thermal variability"

4.2.4 Thermal Goals for EBS Design

Based on assumption 4.3.1, the requirements of Section 3.7.G of the EB-DRD (Ref. 5.5), and the design goals of the WPIP (Ref. 5.10), the following thermal criteria are established for the design of the EBS:

- Keep the rock mass temperature at 1 meter from a vertical borehole less than 200°C.
- Keep the emplacement drift wall temperature less than 200°C.

- Limit the TSw3 (basal vitrophyre) maximum temperature to less than 115°C.
- Limit the maximum ground surface temperature change in the vicinity of the repository to less than 2°C.
- Limit the emplacement drift maximum temperature for borehole emplacement to less than 100°C.
- Limit the access drift wall rock maximum temperature to less than 50°C during preclosure.
- Limit the CHn maximum temperature to less than 115°C.
- Limit the PTn (Upper Paint Brush non-welded) maximum temperature to less than 115°C.
- Limit the SNF cladding maximum temperature to less than 350°C.
- Limit the high-level waste glass maximum temperature to less than 500°C.
- The structural strength of any material component of the waste package shall not be compromised by temperature/environment of the EBS environment.
- Maximize the time the waste package container stays above boiling consistent with the thermal strategy developed.

The above thermal criteria are in addition to those previously quoted from the EB-DRD (Ref. 5.5).

4.2.5 Thermal Goals/Criterion Addressed by this Analysis

Based on assumption 4.3.1, the requirements listed in the previous sections, and the design goals of the WPIP (Ref. 5.10), the following thermal criteria are to be addressed by this analysis:

- Limit the SNF cladding maximum temperature to less than 350°C.
- The structural strength of any material component of the Waste Package shall not be compromised by temperature/environment of the EBS environment.

4.3 Assumptions

All design inputs are for pre-Title II designs; some or all of these design inputs will require subsequent qualification (or superseding inputs) as the waste package design proceeds. The design inputs identified and documented in Section 4 have been assigned the single tracking number TBV-216-WPD, to meet tracking requirements in accordance with applicable procedures.

4.3.1 The following thermal criteria are assumed to apply to the design of the Engineered Barrier Segment. These criteria are consistent with current program decisions in the Controlled Design Assumption Document (CDA, Ref. 5.7). The criteria are originally based on a reevaluation of the Site Characterization Plan (SCP) thermal goals (Table 3, p. 22, Ref. 5.33). Each thermal criterion is listed here followed by its CDA or SCP reference. This assumption is used in Section 4.2. As specified in Section 4.2.5, only the 350°C SNF cladding temperature and the material structural strength criteria are used directly for this analysis. These two criteria are used throughout Section 7. However, the other listed items are used in reference 5.13 and were used to generate the waste package surface boundary condition used for this analysis. They are listed here in the interests of consistency.

- Keep the rock mass temperature at 1 meter from a vertical borehole less than 200°C. (CDA EB-DRD 3.7.G.2, p. 6-76, Ref. 5.7)
- Keep the emplacement drift wall temperature less than 200°C. (CDA EB-DRD 3.7.G.2, p. 6-76, Ref. 5.7)
- Limit the TSw3 (basal vitrophyre) maximum temperature to less than 115°C. (CDA EB-DRD 3.7.G.3, p. 6-77, Ref. 5.7)
- Limit the maximum ground surface temperature change in the vicinity of the repository to less than 2°C. (CDA EB-DRD 3.7.G.4, p. 6-78, Ref. 5.7)
- Limit the emplacement drift maximum temperature for borehole emplacement to less than 100°C. (CDA EB-DRD 3.7.G.5, p. 6-79, Ref. 5.7)
- Limit the access drift wall rock maximum temperature to less than 50°C during preclosure. (CDA EB-DRD 3.7.G.6, p. 6-80, Ref. 5.7)
- Limit the CHn maximum temperature to less than 115°C. (CDA DCSS 025, p. 6-155, Ref. 5.7)
- Limit the PTn (Upper Paint Brush non-welded) maximum temperature to less than 115°C. (CDA DCSS 031, p. 6-160, Ref. 5.7)

- Limit the SNF cladding maximum temperature to less than 350°C. (CDA DCWP 001, p. 6-165, Ref. 5.7)
 - Limit the high-level waste glass maximum temperature to less than 500°C. (CDA DCWP 002, p. 6-166, Ref. 5.7)
 - The structural strength of any material component of the waste package shall not be compromised by temperature/environment of the EBS environment. (derived from p. 2-4, Ref. 5.10 and 3.7.1.3.E, p. 3-53, Ref. 5.5)
 - Maximize the time the waste package container stays above boiling consistent with the thermal strategy developed. (Table 3, p. 23, Ref. 5.33)
- 4.3.2 Two primary high thermal loadings (100 MTU/acre and 83 MTU/acre) and a couple variations of a low thermal loading (25 MTU/acre) will be considered in this analysis. These values are consistent with the range of thermal loadings (20 - 100 MTU/acre) given in the CDA (Key 019, p. 6-24, Ref. 5.7). Systems Engineering (p. 2, Ref. 5.23) recommended thermal loadings of 25 and 83 MTU/acre be used for MGDS design analysis in order for the MGDS to present a consistent design. A thermal loading of 100 MTU/acre represents the likely maximum possible without violating thermal goals according to the FY 93 Thermal Loading System Study (p. 10-2, Ref. 5.24) and is a bounding case for this analysis. This assumption is used in Section 7.1.
- 4.3.3 The waste package will be emplaced in-drift in a horizontal mode. This is consistent with large waste packages such as the UCF with disposal container and is a current program decision (CDA Key 011, p. 6-18, Ref. 5.7). This assumption is used throughout Section 7.
- 4.3.4 Reference 5.40 (pp. 22, 35) determined the thermal design basis BWR SNF for the MGDS waste package to have the following characteristics: 1) an age (or cooling time) of 10 years at the time of emplacement, 2) a burn up of 48,086 MWd/MTU, and 3) average assembly uranium enrichment of 4.20%. To complete the characterization of the PWR SNF, it is assumed that a B&W Mark B4 PWR SNF assembly with a uranium mass of 0.464 MTU/assembly and an active fuel length of 141.8 inches will adequately represent the PWR SNF as a class of waste. This data is required in order to determine the decay heat curve of the MGDS thermal design basis PWR SNF. Based upon data from pages 2A-7 and 2A-8 of reference 5.12, 0.464 MTU/assembly and an active fuel length of 141.8 inches was selected to conservatively bound the PWR assembly types given the wide variety of uranium loading configurations. This assumption is used throughout Sections 6 and 7.

- 4.3.5 The decay heat curve for the MGDS thermal design basis was generated with the use of the PHIA V00B code with data input from Attachment 2 of reference 5.30. The data from reference 5.30 is assumed to accurately represent the SNF currently in storage throughout the United States. Use of the data from reference 5.30 is consistent with the reasons for its creation. This assumption is used throughout Section 7. The PHIA V00B code is presented in Attachment I and the data used from reference 5.30 as input to the PHIA V00B code is presented in Attachment II. The decay heat curve is presented in Sections 6 and 7.4.
- 4.3.6 The material properties, i.e., effective thermal conductivities, used for the B&W 15x15 PWR SNF in reference 5.40 may be conservatively applied to generally represent any nuclear fuel vendor's PWR SNF for this analysis. The basis for this assumption is that the dominant mode of heat transfer from SNF to the basket is radiation. The B&W Mark B4 15x15 PWR bundle is very similar for all dimensions to any nuclear fuel vendor's PWR assembly, whether it be a 14x14, 15x15, 16x16, or a 17x17, and the interior fuel rods will have similar view factors to the waste package basket as those which may be calculated for the B&W Mark B4 15x15 PWR assembly. Thus, it is expected that each of the PWR SNF assembly types will dissipate heat with relatively the same efficiency. Therefore, using the PWR effective conductivity material properties for the PWR SNF assembly utilized by reference 5.40 is expected to predict the PWR SNF cladding temperatures with the same accuracy for any PWR assembly type. Also, the use of data from reference 5.40 requires that the heat generation be homogenous in the modeled SNF region. Heat generation in SNF regions must be applied in this fashion to use the reference 5.40 data in a consistent manner. This assumption is used throughout Section 7.
- 4.3.7 The UCF with disposal container model assumes that a two-dimensional finite element model of a cross section at the midsection of the waste package will be representative of the hottest portion of the waste package. Inherent in this assumption is that axial heat transfer does not significantly affect the solution (i.e., the flow of heat in the radial direction is assumed to dominate the solution). The basis for this assumption is that the metal thermal conductivities and heat generation distributions are such that axial heat transfer is very small or negligible. This was shown by the analysis in reference 5.13 which modeled the waste package in three dimensions. This assumption is used throughout Section 7.
- 4.3.8 For the cross section model of the waste package, an average axial power peaking factor of 1.25 is applied to the PWR SNF heat generation rate. This factor is based upon the reactor design experience of the analyst and is assumed to bound the range of axial power peaking factors for PWR SNF. The basis for this assumption is that PWR reactor cores are designed such that axial peaking larger than an average of 1.25 is typically undesirable for the full duration of a reactor operating cycle for both licensing and economic reasons. This assumption is used throughout Section 7.

- 4.3.9 The average waste package surface temperatures (time dependent), as defined in reference 5.13 for each thermal load case, will be applied as the boundary conditions for the detailed waste package analysis (normal conditions). The detailed waste package model will examine the design basis SNF rather than the average SNF which will result in slightly higher near field temperatures. This effect, however, will be assumed to have a small impact upon the SNF cladding temperatures calculated and will be neglected. The basis for this assumption is engineering judgement. This assumption is used throughout Section 7.
- 4.3.10 The effects of drift backfilling will not be considered for the repository base case analysis. Backfill material has not been defined to date and will not be considered to be within the scope of this analysis. Backfill effects on the waste package design will be addressed in a different analysis. This assumption is used throughout Section 7.
- 4.3.11 The UCF conceptual design SNF basket and internal structure as presented in references 5.31, 5.35, and 5.37 is assumed to be the representative design which specifies the geometry and materials of construction. The basis of this assumption is that the specified references are the only UCF design documents available. This assumption is used throughout Section 7.
- 4.3.12 The UCF disposal container shell material composition, geometry, and dimensions are assumed to be those specified in reference 5.31. This data is also presented as Waste Package Development sketches which are identified as specified in references 5.35 and 5.37, and are based upon reference 5.31. This assumption is consistent with CDA KEY 042, page 6-37 of reference 5.7. This assumption is used throughout Section 7.
- 4.3.13 The UCF waste package is assumed to be evacuated and backfilled with helium gas. The basis for this assumption is that this process is considered on pages II.A.3-20, II.A.3-53, and II.A.4-2 of reference 5.8 as a method to meet the internal humidity requirement for the Multi-Purpose Canister (MPC) internals. The UCF is assumed to use the same evacuation/backfilling operation as the MPC in order to provide a consistent MGDS EBS concept. This assumption is used throughout Section 7.
- 4.3.14 Part length tube guides shall not be included in the ANSYS model and will be conservative with respect to internal temperature estimations. The basis of this assumption is that the part length tube guides are an additional conduction path from the SNF tubes to the waste package shell. Elimination of this conduction path forces more heat to be dissipated by conduction through the helium gap or by radiative heat transfer which is less efficient than conduction through an Alloy 825 tube guide. This assumption is used throughout Section 7.

- 4.3.15 Modeling only conduction and radiative heat transfer is assumed to provide conservative results for this analysis. The basis for this assumption is as follows: the fill gas placed internally to the UCF WP will allow a convective heat transfer path to exist; however, the natural convective heat transfer will have a small or negligible contribution to the total heat transfer (see reference 5.16 for a discussion on natural convection heat transfer). Thus, the problem may be modeled with only the dominant heat transfer modes with a negligible or conservative impact upon the results. This assumption is used throughout Section 7.
- 4.3.16 It is assumed for this analysis that the waste package will not have filler material placed inside of it. The basis for this assumption is that the consideration of filler material is beyond the scope of this analysis. The affect of filler materials will be evaluated with additional analysis at a later time. This assumption is used throughout Section 7.
- 4.3.17 It is assumed for this analysis that the waste package will not be individually fitted with radiation shielding. This is consistent with the CDA; KEY 031, page 6-32, of reference 5.7. This assumption is used throughout Section 7.
- 4.3.18 It is assumed for this analysis that the waste package will not contain consolidated SNF rods, but will only contain intact SNF assemblies. See KEY 008 on page 6-15 of reference 5.7 for the justification of this assumption. This assumption is used throughout Section 7.
- 4.3.19 A perfect weld will be modeled for any waste package materials which are in contact. It is assumed for this analysis that this modeling practice has a negligible impact upon the results of the analysis. This means that a contact thermal resistance will not be modeled between touching materials. This assumption is intended to make the modeling of the problem simpler and is judged to have a negligible impact upon the results of this analysis and any non-conservative impact will be more than offset by the conservatism in the other assumptions used for this analysis. The basis for this assumption is engineering judgement. This assumption is used throughout Section 7.
- 4.3.20 The UCF waste package internal components and the waste package shell are assumed to be integrally connected. The basis for this assumption is that the current design philosophy is to weld corner guides directly to the inner shell of the waste package as indicated in references 5.35 and 5.37. Thus, the UCF waste package design will not have a third shell like the MPC design (Ref. 5.8). This assumption is used throughout Section 7.
- 4.3.21 Modeling the UCF basket tubes as touching the aluminum thermal shunts and Alloy 825 corner guides is assumed to have a minor impact upon the results. The basis for this assumption is engineering judgement given the conservative values of thermal conductivity used for the aluminum thermal shunts (see assumption 4.3.26), the

temperature drops between the MPC basket and corner guides (Ref. 5.40), and the conservative assumptions used in this analysis. The model was created to be consistent with the dimensions provided in references 5.31, 5.35, and 5.37, however, as the design evolves tolerances will be established such that some gaps will be created. Based upon the analysis documented in reference 5.40 for the MPC waste package which models small gaps that will be larger than those for the UCF WP, internal temperatures will be 10°C to 15°C higher. However, the use of aluminum-boron thermal conductivities will mitigate the affects of this assumption. Page 50 of reference 5.22 provides a value of thermal conductivity at 68°F (20°C) for aluminum alloy 6063 of 201 W/m·K. This compares to the value of aluminum-boron at 23°C of 182.6 W/m·K (Table 4.1-8). This indicates that the use of the aluminum-boron thermal conductivities invokes roughly a 10% reduction in thermal conductivity for aluminum 6063. Thus, these two modeling conventions roughly balance each other such that the effect on the results of the calculation is judged to be small. This assumption is used throughout Section 7.

- 4.3.22 The properties of helium at atmospheric pressure are assumed to be representative of the conditions which helium in the UCF will experience. This assumption is based upon the fact that a one atmosphere fill pressure is representative of industry standard for storage casks. Page 10 of reference 5.36 provides the highest pressure which storage casks are filled as approximately 1.5 atmosphere; also most industry vendors use substantially lower pressure in their designs. Use of one atmosphere is representative of the most likely pressure to be used. This assumption is used in Section 4.1 and throughout Section 7.
- 4.3.23 Use of the material properties for stainless steel 316 provided in Tables 4.1-1 and 4.1-2 is assumed to adequately represent any stainless steel or borated stainless steel (316 B6A) materials used in the UCF waste package for this analysis. Particularly the use of a constant value for the density and emissivity is assumed to be adequate for this analysis. The basis for this assumption is engineering judgement and the fact that the temperature dependent values of thermal conductivity and specific heat are specified well enough to cover the anticipated temperatures the UCF is expected to experience. Also, the values for density and emissivity change only slightly over the expected range of temperatures. Thus, using a single value will not affect the results of the analysis. This assumption is used in Section 4.1 and throughout Section 7.
- 4.3.24 Use of the material properties for A 516 carbon steel provided in Tables 4.1-3 and 4.1-4 is assumed to adequately represent A 516 carbon steel for this analysis. Particularly the use of a constant value for the density and emissivity is assumed to be adequate for this analysis. The basis for this assumption is engineering judgement and the fact that the temperature dependent values of thermal conductivity and specific heat are specified well enough to cover the anticipated temperatures the UCF is expected to experience. Also, the values for density and emissivity change only slightly over the expected range of temperatures. Thus, using a single value will not affect the results of the analysis. This assumption is used in Section 4.1 and throughout Section 7.

- 4.3.25 Use of the material properties for Alloy 825 provided in Tables 4.1-5 and 4.1-6 is assumed to adequately represent Alloy 825 for this analysis. Particularly the use of a constant value for the density and emissivity is assumed to be adequate for this analysis. The basis for this assumption is engineering judgement and the fact that the temperature dependent values of thermal conductivity and specific heat are specified well enough to cover the anticipated temperatures the UCF is expected to experience. Also, the values for density and emissivity change only slightly over the expected range of temperatures. Thus, using a single value will not affect the results of the analysis. This assumption is used in Section 4.1 and throughout Section 7.
- 4.3.26 Use of the material properties for aluminum-boron provided in Table 4.1-8 and Section 4.1 is assumed to adequately represent aluminum for this analysis. Particularly, the use of a constant value for the density and the use of the constant value of aluminum emissivity is assumed to be adequate for this analysis. The basis for this assumption is engineering judgement, the fact that non-metallic additions to metal materials will reduce the capability of the metal to conduct heat (i.e., reduce its thermal conductivity), and the fact that the temperature dependent values of thermal conductivity and specific heat are specified well enough to cover most of the anticipated temperatures the UCF is expected to experience. ANSYS does not extrapolate beyond the given tabulated values, rather it uses the last value available in the table. Thus, since thermal conductivity and specific heat generally increase with increasing temperature, ANSYS will use a conservative value if the aluminum-boron material experiences temperatures above 200°C. Also, the values for density and emissivity change only slightly over the expected range of temperatures. Thus, using a single value will not affect the results of the analysis. The use of a single value for aluminum emissivity is assumed reasonable since the emissivity for aluminum is sufficiently low at 0.07 that a lower value will have very little impact upon the solution. The results of the analysis will be conservative if the value for aluminum-boron is indeed larger. This assumption is used in Section 4.1 and throughout Section 7.
- 4.3.27 Use of the material properties for C71500 70/30 copper-nickel alloy provided in Table 4.1-9 is assumed to adequately represent C71500 70/30 copper-nickel alloy for this analysis. Particularly the use of a constant value for the density and specific heat is assumed to be adequate for this analysis. The basis for this assumption is engineering judgement and the fact that the temperature dependent values for thermal conductivity are specified well enough to cover the anticipated temperatures the UCF is expected to experience. Also, the value for density changes only slightly over the expected range of temperatures. Thus, using a single value will not affect the results of the analysis. ANSYS does not extrapolate beyond the given tabulated values, rather it uses the last value available in the table. Thus, since specific heat generally increases with increasing temperature, ANSYS will use a conservative value for specific heat by using the C71500 70/30 copper-nickel alloy specific heat at 20°C. This assumption is used in Section 4.1 and throughout Section 7.

- 4.3.28 The use of single, homogenized SNF material density used in conjunction with assumption 4.3.6 is assumed reasonable and adequate. The basis for this assumption is engineering judgement. The density value was determined using the PWR assembly mass from Table 5.1.1.2.1-1 on page 26 of reference 5.39 of 1720 lbs (780.2 kg) and dividing by the PWR assembly volume which provides an average density in kg/m^3 (density = mass / volume). The PWR volume was determined using the overall assembly width of 8.54 inches (0.21692 m) and the assembly length of 165.625 inches (4.20688 m) from page 2A-7 of reference 5.12. The volume calculation is then simply that of the assembly width squared multiplied by the assembly length (volume = width x width x length). The SNF density used is: density = 3941.5 kg/m^3 . The value used in each of the ANSYS input decks provided in Attachments XII through XVII is 3960.0 kg/m^3 and is in error. However, the error is judged to be small relative to the given set of assumptions and will have no impact upon any of the results given the small amount of thermal energy mass storage expected in the homogeneous SNF assembly. This assumption is used throughout Section 7.
- 4.3.29 The use of single, homogenized SNF material specific heat used in conjunction with assumption 4.3.6 is assumed reasonable and adequate. The basis for this assumption is engineering judgement. The specific value was determined using: 1) the PWR assembly mass from Table 5.1.1.2.1-1 on page 26 of reference 5.39 of 1720 lbs (780.2 kg), 2) the uranium mass from page 2A-7 of reference 5.12 of 464 kg, and 3) the specific heat of uranium oxide of $247 \text{ J/kg}\cdot\text{K}$ (100°C) and Zirc2 of $330.0 \text{ J/kg}\cdot\text{K}$ (400°C) from Tables 8-1 and 8-2 on page 296 of reference 5.1. The assembly is assumed to be comprised only of uranium oxide and Zirc2, therefore the homogenized specific heat is a simple mass weighted average (i.e., $\text{SNF } C_p = (C_p \text{ UO}_2 \cdot \text{mass UO}_2 + C_p \text{ Zirc2} \cdot \text{mass Zirc2}) / \text{mass of assembly}$). The mass of UO_2 is determined from the mass of uranium (i.e., $\text{mass UO}_2 = \text{mass U} \cdot (\text{Atomic wt U} + 2 \cdot \text{Atomic wt of O}^{16}) / \text{Atomic wt of U} = 526.376 \text{ kg}$). The mass of Zirc2 is then simply the difference between the total assembly mass and the UO_2 mass (mass Zirc2 = 253.824 kg). The SNF specific heat value is then calculated to be: $\text{SNF } C_p = 274.0 \text{ J/kg}\cdot\text{K}$. The value used in each of the ANSYS input decks provided in Attachments XII through XVII is $274.0 \text{ J/kg}\cdot\text{K}$. This assumption is used throughout Section 7.
- 4.3.30 The use of stainless steel as a thermal shunt material is investigated for the 100 MTU/acre thermal loading. It is assumed that the same waste package design, thermal shunt thickness, and previously listed assumptions are equally applicable for this analysis. The basis of this assumption is that the stainless steel material is used to determine the magnitude of the thermal conductivity which is required for the thermal shunts. A material substitution for the aluminum thermal shunts may be required if the UCF structural analysis determines that additional strength is required.

4.4 Codes and Standards

Not Applicable. Thermal design of the waste package is not controlled by codes and standards. The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Ref. 5.15) has been used only as a source of material properties.

5. References

- 5.1 Nuclear Systems I Thermal Hydraulic Fundamentals, Neil E. Todreas and Mujid S. Kazimi, Hemisphere Publishing Corporation, New York, N.Y., 1990.
- 5.2 Activity Evaluation: Perform Criticality, Thermal, Structural, and Shielding Analysis, Document Identifier (DI) Number: BB0000000-01717-2200-00025 REV 02, Civilian Radioactive Waste Management System (CRWMS) Management and Operating Contractor (M&O).
- 5.3 Quality Assurance Requirements and Description (QARD), DOE/RW-0333P, REV 5, U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM).
- 5.4 Yucca Mountain Site Characterization Project Q-List, YMP/90-55Q, REV 3, Yucca Mountain Site Characterization Project.
- 5.5 Engineered Barrier Design Requirements Document, YMP/CM-0024, REV 0, ICN 1, Yucca Mountain Site Characterization Project.
- 5.6 Mined Geological Disposal System Requirements Document, DOE/RW-0404P, DI Number: B00000000-00811-1708-00002 REV 01, DCN 01, U.S. DOE OCRWM.
- 5.7 Controlled Design Assumptions Document, DI Number: B00000000-01717-4600-00032 REV 01, CRWMS M&O.
- 5.8 Multi-Purpose Canister (MPC) Implementation Program Conceptual Design Phase Report, Volume II.A - MPC Conceptual Design Report, DI Number: A20000000-00811-5705-00002 REV 00, CRWMS M&O.
- 5.9 Waste Package Plan, YMP/90-62, REV 1, Yucca Mountain Site Characterization Project.
- 5.10 Waste Package Implementation Plan, YMP/92-11Q, REV 1, Yucca Mountain Site Characterization Project.
- 5.11 Not Used.

- 5.12 Characteristics of Potential Repository Wastes, DOE/RW-0184-R1; Volume 1, U.S. DOE OCRWM.
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6. Use of Computer Software

The FEA analysis computer code used for this analysis is ANSYS version (V) 5.0A which is identified with the Computer System Configuration Identifier (CSCI) B00000000-1717-1200-30003. ANSYS is a commercially available finite element thermal and mechanical analysis code and is appropriate for the thermal analysis of waste packages, waste package emplacements, and waste package environments. The analyses using the ANSYS software were executed on a Hewlett-Packard 9000 Series 735 workstation. The software qualification of the ANSYS software, including problems of the type analyzed in this report, is summarized in the ANSYS V5.0A Verification and Validation Final Report (p. 1, Ref. 5.25). The ANSYS evaluations performed for this design are fully within the range of the validation performed for the ANSYS V5.0A code. Access to and use of the code for the analysis granted and performed in accordance with the ANSYS V5.0A Life Cycle Plan (p. 1, Ref. 5.26) and the QAP-SI series procedures. Inputs and outputs to the ANSYS software are included as attachments as described in the following design analysis.

The ANSYS SNF heat load file was generated with the computer code PHIA version (V) 00B and is classified as computational support software. PHIA V00B is not a controlled computer code and has not been qualified under the QAP-SI series of M&O procedures. PHIA requires the data provided in assumptions 4.3.4 and 4.3.5 as inputs. Based upon the data provided in assumption 4.3.4, PHIA performs a table look up using the data set of assumption 4.3.5. Once the proper sub-set of data is obtained, PHIA then will interpolate data points in order to generate an ANSYS usable data file. The PHIA code listing, input database file, and ANSYS data file are provided as Attachments I, II, and III. The PHIA code is simply an automation of a simple data manipulation which can easily be checked by hand. The data is provided in this analysis for the purpose of performing hand calculation checks. The data manipulation has been checked by hand, and will be used in this analysis on that basis. The PHIA code was utilized for the purpose of computational support software as it was intended and it is appropriate for the use of generating a ANSYS SNF heat load file. The PHIA software was executed on an IBM PC compatible.

The Wootton-Epstein correlation calculation was performed with the computer code Lotus 1-2-3 for Windows Version 1.1 and is classified as computational support software. Lotus 1-2-3 for Windows Version 1.1 is not a controlled computer code and has not been qualified under the QAP-SI series of M&O procedures and will not be qualified under the M&O procedures. Lotus 1-2-3 for Windows Version 1.1 simply provides a frame work to automate a simple calculation which can easily be checked by hand. The input data and a description of the calculation performed is provided in Section 7.4 for the purpose of performing hand calculation checks. The

calculation has been checked by hand and will be used in this analysis on that basis. Lotus 1-2-3 for Windows Version 1.1 was utilized for the purpose of computational support software as it was intended and it is appropriate for the use of generating peak cladding temperatures as specified in Section 7.4. Lotus 1-2-3 for Windows Version 1.1 was executed on an IBM PC compatible.

The presentation graphics provided in Section 7.4 was generated with the computer code Harvard Graphics Version 2.0 and is classified as computational support software. Harvard Graphics Version 2.0 was executed on a IBM PC compatible. Harvard Graphics Version 2.0 is not a controlled computer code and has not been qualified under the QAP-SI series of M&O procedures and will not be qualified under the M&O procedures. Harvard Graphics Version 2.0 simply provides a frame work to create a graphical representation of data. No calculation or modification beyond cut and paste operations with tabular ANSYS or Lotus 1-2-3 output was performed in Harvard Graphics.

7. Design Analysis

7.1 Background

As part of an engineered barrier system for the containment of radionuclides, the UCF waste package (WP) must be shown to comply with all regulations and requirements that govern the conditions of the emplaced SNF and the near-field rock at the repository horizon. Temperatures in the WP and near-field host rock are key to radionuclide containment, as they directly affect oxidation rates of the metal barriers, metal and fuel cladding structural integrity, and the ability of the rock to impede particle movement.

Maximum allowable temperatures are based on material performance criteria and are specified as design goals for the WP/EBS design. For SNF, the Commercial Spent Fuel Management Program (p. xii, Ref. 5.27) at Pacific Northwest Laboratory recommended a 380°C temperature limit for the SNF cladding to prevent creep rupture failure. A more conservative value of 350°C has been selected (CDA DCWP 001, p. 6-165, Ref. 5.7) to account for uncertainties in source characteristics as well as heat transfer calculations. To limit the predicted thermal and thermo-mechanical response of the host rock and surrounding strata, maximum temperatures of 200°C for TSw2 (at the emplacement drift wall) and 115°C in the TSw3 (vitrophyre tuff) layer have been specified. Specific characteristics and requirements for the engineered barrier system are listed in the Yucca Mountain Site Characterization Project Engineered Barrier Design Requirements Document (Ref. 5.5) and are discussed in Section 4.2.

The method for WP thermal evaluations involves a three-model approach to determine the time-dependent WP thermal behavior. As presented in reference 5.13, a three-dimensional (3-D) transient finite element model of the WP emplacement provides the WP surface temperature history for use as a boundary condition. The WP boundary condition is then applied to a detailed

two-dimensional (2-D) WP model; it is this 2-D model which is analyzed in this report. Resulting SNF basket wall temperature predictions from the WP model provide the boundary for an estimation of peak SNF cladding temperatures. Cladding temperatures are predicted in the WP model using an effective conductivity defined to represent a homogeneous SNF assembly. The effective conductivity was determined using a detailed third model of an intact SNF assembly, the data files for the effective thermal conductivities are provided in reference 5.40. Cladding temperatures are also conservatively estimated using an empirical correlation from reference 5.14.

The thermal environment of the WP in the repository will change with time and is affected by the heat produced in the WP. Therefore, the WP thermal evaluation must be a transient analysis that takes into account the time varying heat load of the WP. This can be contrasted to a SNF storage cask analysis where the thermal environment is assumed constant and is provided by regulations.

To determine the effect of the WP on repository near-field temperatures, a 3-D emplacement model was evaluated for a range of thermal loadings. The analysis is described in detail in the supporting emplacement thermal model design analysis (Ref. 5.13). A parametric set of thermal loading cases, summarized in Table 7.1-1, is required because the thermal loading for the repository has been specified as a range (CDA Key 019, p. 6-24, Ref. 5.7) and the UCF WP must be shown to meet requirements over that range. Representative "high" and "low" thermal loadings of 100 MTU/acre (24.7 kg U/m²), 83 MTU/acre (20.5 kg U/m²), and 25 MTU/acre (6.2 kg U/m²) were selected (see assumption 4.3.2) to be consistent with the CDA and the Thermal Loading Systems Study (Ref. 5.24), and drift spacings in multiples of 22.5 m (see Ref. 5.13) were selected to be consistent with the Repository/WP Initial Summary Report (Ref. 5.29).

Table 7.1-1. Large Waste Package Thermal Loading Scenarios
(From Table 7.5-1 of Reference 5.13)

Areal Mass Loading (AML) MTU/acre	Initial Areal Power Density (APD) kW/acre	Waste Package Spacing	Drift Spacing
100 (high #1)	113.7	16.2 m	22.5 m
83 (high #2)	94.4	19.5 m	22.5 m
25 (low #1)	28.4	32.3 m	45.0 m
25 (low #2)	28.4	21.6 m	67.5 m
25 (low #3)	28.4	16.2 m	90.0 m

The low thermal loading drift spacings described in Table 7.1-1 represent the utilization of even multiples of the high thermal loading drift spacing (every other drift, every third, etc.). Low thermal loading #1 achieves the longest reasonable WP spacing and results in the lowest near-field temperatures; low thermal loading #2 has a WP spacing similar to that for the high thermal loading; and low thermal loading #3 has a short WP spacing and represents the "localized disturbance" concept for low loadings. The "localized disturbance" concept depends on high temperature gradients (due to the closely spaced WPs) to drive local water in the rock away from the emplacement drifts. The analysis performed in reference 5.13 was performed to determine the rock wall temperatures for these conditions and whether the rock temperature goals were met. The WP surface temperatures from that analysis can be used as a boundary condition to determine the WP internal and SNF cladding temperatures.

7.2 Design Basis Fuel

To capture a majority of the SNF, the WP must be designed and evaluated to accommodate the bounding or limiting case of fresh SNF which has a thermal output much higher than average. Thus, a design basis SNF can be determined which can be considered the hottest SNF that could be loaded and emplaced in that waste package. The detailed waste package/EBS evaluation would then represent the hottest waste package in a repository at a given thermal loading (with otherwise average SNF). While all of the waste packages (hot and cold) will collectively influence repository temperatures (average SNF characteristics), every waste package must meet thermal goals (design basis SNF characteristics). The methodology and selection of design basis SNF for WP design is covered in reference 5.40.

Given that higher capacity waste packages are more likely to exceed thermal goals than smaller ones in the same repository thermal environment, the choice of a design basis SNF is important because it could limit the number of assemblies that can be loaded in one WP without exceeding thermal goals for disposal. The limiting thermal goal for waste packages, such as the 21 PWR UCF waste package, is a temperature of no more than 350°C at the SNF cladding. Several different design basis SNF types have been used by the OCRWM to demonstrate compliance with requirements and to allow comparison with previous evaluations. Table 7.2-1 summarizes the SNF types used. The heat loads for each assembly type were interpolated from the database of spent fuel characteristics (Ref. 5.30) for each of the assumed design basis SNF types using the PHIA V00B code (see Attachment I).

Table 7.2-1. Thermal Analysis SNF Design Bases

Organization	SNF Type	SNF Age	SNF Burnup	Initial Heat
MGDS (Ref. 5.40)	PWR	10 years	48 GWd/MTU	850 watts
MGDS (Ref. 5.40)	BWR	10 years	49 GWd/MTU	409 watts
MPC (Ref. 5.39)	PWR	20 years	40 GWd/MTU	547 watts
MPC (Ref. 5.39)	BWR	20 years	40 GWd/MTU	265 watts
MPC Historic (Ref. 5.8)	PWR	10 years	40 GWd/MTU	718 watts

Design basis SNF will impact the timing of peak temperatures as well as the magnitude of the peak. The repository host rock temperatures will peak between 10 to 500 years depending on the thermal loading but will be largely independent of the individual waste package design. The waste package itself will experience its peak temperature before the rock temperature peaks. The peak temperature and its timing will depend on the design basis SNF and the basket/container design. In previous analyses of the large waste package (p. 6-108, Ref. 5.29), higher conductivity SNF baskets were seen to lower and delay the peak temperatures experienced. The choice of the design basis SNF is of key importance. Younger SNF types produce high peak temperatures within the first year which then drop off quickly. Older SNF (at the same initial APD, but not AML) produces lower and later peaks with more stable and higher long-term temperatures.

In the following evaluation, only the MGDS design basis PWR SNF type has been used to illustrate the cladding temperatures which the UCF waste package will produce when placed in the MGDS. The time dependence of the design basis PWR SNF heat load is provided in Attachment III as provided by the PHIA code using the data provided in Attachment 2 of reference 5.30. The PHIA code uses the data provided in assumption 4.3.4 and 4.3.5, sorts through the SNF decay heat data to obtain the correct heat generation rate versus time for the given SNF parameters, then interpolates as required to obtain the desired ANSYS time step intervals. The data is then written to an output file suitable for direct use by ANSYS. The PHIA code is provided as Attachment I, along with the input file from reference 5.30 as Attachment II, and the output file from PHIA as Attachment III.

7.3 2-D Waste Package Model Development

The general philosophy used for this analysis is to create a separate input file for each thermal loading case. Since there are only two major differences between individual cases, i.e., boundary condition and WP outer barrier for high and low thermal load, a base deck (High Thermal Load #1 Case) was created with the basic modeling information. The base deck was then copied for each ANSYS case. Each individual file then had the appropriate boundary condition file from reference 5.13 entered into the input decks. Finally, the Low Thermal Load cases then had the appropriate WP outer barrier material and thickness data entered into the input decks.

The basic layout of each deck follows the following pattern: 1) Comment header used to define problem modeled, additional files read by the input deck, and what information is contained in the data files used in the input deck. 2) Define model parameters and dimensions which are used repeatedly. This includes all material properties, reading of boundary condition files, reading of body load files, etc. The ANSYS input decks make use of defined variables which are then used to perform simple calculations concerning units conversions and geometric positions. Many of the UCF basket geometry parameters are reported in references 5.35 and 5.37 in units of millimeters. These values were entered into the ANSYS input decks along with the units conversion to meters, assigned a variable name, and the variable name was then used throughout the remainder of the input deck to determine the geometry of the basket and the disposal container. Also, units of years are used in the file defining SNF heat loads. The years are converted to seconds for this analysis. The variables are clearly identified and defined via comments included in the ANSYS input deck. 3) Define element types which will be used to perform the solution. 4) Define the model geometry and mesh structure. The approach used is to define all components by first defining the basic key points, then lines, then areas and finally the mesh. A time consuming approach to input development, but it is easily followed and repeated. 5) Define all radiation surfaces and create radiation mesh matrix. The ANSYS AUX12 utility is used to generate all of the required view factors between radiation elements. 6) Apply the body loads and boundary conditions to the appropriate geometry components. Since this calculation is a transient, the loads and boundary conditions are applied at each time step. 7) Finally, selected positions in the SNF, basket, and disposal container shell were selected to have temperatures for each time step of the transient echoed to the output file for examination.

Each ANSYS input deck is provided as part of the ANSYS output files in Attachments XII, XIII, XIV, XV, XVI and XVII. Heat and material input files are provided as Attachments III, IV, V and the boundary condition files for each thermal loading case is provided in Attachments VII through XI.

The development of any ANSYS model involves the following specific steps:

- 1) Identify the geometry to be modeled.
- 2) Identify the material properties which will be required.
- 3) Identify the assumptions used to model the real geometry and materials.
- 4) Identify the body loads (i.e., heat generation rates in specific materials).
- 5) Identify the boundary conditions/surface loads (i.e., surfaces with known or given temperatures).
- 6) Specify the problem as steady state or transient. If transient specify the time frame which is to be considered.
- 7) Execute the model generated to obtain solutions for the given conditions.
- 8) Analyze the results to form a conclusion or support a design thesis.

The creation of an ANSYS model for the 21 PWR UCF waste package conceptual design followed the listed steps. Discussion of some of these steps will be combined for convenience.

- 1) Identify the geometry to be modeled.
- 2) Identify the material properties which will be required.

The geometry and the material composition of each component is specified in references 5.31, 5.35, and 5.37 for the 21 PWR UCF waste package conceptual design (see assumptions 4.3.11 and 4.3.12). Notice that the high thermal load and low thermal load waste packages have different outer barrier thicknesses and material compositions. The high thermal loading disposal container is 0.020 meter thick Alloy 825 with an outer barrier of 0.100 meter thick A 516 carbon steel. The low thermal loading disposal container is 0.020 meter thick Alloy 825 with an outer barrier of 0.050 meter thick C71500 copper-nickel alloy. Finally, a single case was created in order to obtain a single data point concerning material substitution for the thermal shunts. A 100 MTU/acre base case was copied and substituted stainless steel 316 material properties for that of aluminum-boron alloy. This case is intended to show that materials with much lower thermal conductivity and greater structural strength than aluminum-boron alloy could be used and still meet the waste package thermal goals (see assumption 4.3.30).

Since this model is part of a larger calculational scheme as indicated in reference 5.13, a simple 2-D cross section of the UCF waste package will be modeled (see assumption 4.3.7). A vertical plane of symmetry is easily identified and thus, the geometry modeled will be that of the right hand side of the UCF waste package. The geometry is not modeled with quarter symmetry since the boundary condition, as specified in reference 5.13, indicates a vertical surface temperature distribution and requires half symmetry. Attachment VI provides mesh plots of the general layout of the waste package internals.

Material properties to be used for each component of the design are specified in Section 4.1 along with the references from which they were obtained. The ANSYS file containing this material property data is provided as Attachment IV (see assumptions 4.3.22, 4.3.23, 4.3.24,

4.3.25, 4.3.26, and 4.3.27). The effective thermal conductivity of the SNF assembly model areas is listed in reference 5.40 and is provided as Attachment V. The additional properties were developed in Section 4.3 (see assumptions 4.3.6, 4.3.28, and 4.3.29) and entered into the input deck. Attachment IV also includes material properties which were not used in this analysis (i.e., those identified as material ID's 4, 5, 6, 8, 9, 10, 11, and 12 were not used).

- 3) Identify the assumptions used to model the real geometry and materials.

All assumptions used for this ANSYS model are listed in Section 4.3. These assumptions provide all of the required insight for a competent ANSYS user as to why the ANSYS geometry and material selections were entered into the ANSYS input decks in the given fashion (Including assumptions 4.3.3, 4.3.10, 4.3.13, 4.3.14, 4.3.15, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21, and 4.3.30).

- 4) Identify the body loads (i.e., heat generation rates in specific materials).
- 5) Identify the boundary conditions/surface loads (i.e., surfaces with known or given temperatures).
- 6) Specify the problem as steady state or transient. If transient specify the time frame which is to be considered.
- 7) Execute the model generated to obtain solutions for the given conditions.

The material which generates the heat load is the SNF and is modeled as a solid material placed in the interior of each tube. The heat load is dependant upon the design basis SNF selected and is discussed in Section 7.2. Briefly, the heat loads for the SNF areas were interpolated from the data provided in reference 5.30 for the assumed MGDS design basis SNF types. The heat load will decrease logarithmically with time as the fission products decay and therefore was created as a function of time. The heat loads were applied volumetrically and were multiplied by an axial heat peaking factor of 1.25 to approximate the axial center of the WP with a 2-D model (see assumption 4.3.8). A SNF assembly is much hotter at the mid-length than at the ends, and it is conservative to assume the 2-D waste package model represents the hottest cross-section of the UCF waste package.

As indicated in section 7.1, this analysis is part of a three part calculation method. As such the boundary conditions are provided by the calculations performed in reference 5.13. The boundary conditions for each repository thermal loading scenario was applied to the waste package surface as a temperature condition to create five ANSYS decks (see assumption 4.3.9). The boundary conditions are time dependent, the SNF heat generation rate is also time dependent, and therefore the problem is a transient. The boundary conditions and heat loads were applied and solved out to 1000 years for each of the five thermal loading scenarios described in Section 7.1 and for the PWR MGDS design basis SNF type described in Table 7.2-1. The transient time of 1000 years was performed to be consistent with the analysis performed in reference 5.13.

8) Analyze the results to form a conclusion or support an design thesis.

The outputs of each ANSYS execution are provided as Attachments XII through XVII. Discussion and summary of the ANSYS results are provided in Section 7.4 and conclusions are provided in Section 8.0. Notice that selected data was requested in the input deck and echoed into the output file for ease of use. This data is summarized in Section 7.4.

7.4 2-D Waste Package Analysis Results

All of the results provided in this section were derived from the ANSYS V5.0A executions. These models are presented in the ANSYS output files summarized in Section 9.0 and provided as attachments to this report. All of the assumptions concerning geometry, material composition, boundary conditions, and other inputs are provided in Section 4.3.

To check the above SNF model preliminary results, the Wootton-Epstein correlation (reference 5.14) was applied for each of the cases. This empirically derived correlation was shown to be conservative in Section 3.6.2 of the BR-100 Spent Fuel Shipping Cask report (reference 5.38). The Wootton-Epstein correlation is described by Equation 7-1.

$$q'' = \sigma \frac{C_1}{\frac{1}{\epsilon_{cl}} + \frac{1}{\epsilon_{ba}} - 1} (T_{cl}^4 - T_{ba}^4) + C_2 (T_{cl} - T_{ba})^{\frac{4}{3}}$$

(Equation 7-1)

Where:

- q'' = heat flux from SNF based on the basket inner surface heat transfer area (Btu/hr-ft²)
- C_1 = constant depending on the spent fuel rod array size,
 = $4N/(N+1)^2$ for odd N
 = $4/(N+2)$ for even N
- C_2 = regression constant = 0.118
- N = number of fuel rods in a single row of a square spent fuel assembly
- T_{cl} = cladding surface temperature (absolute scale, °R)
- T_{ba} = basket surface temperature (absolute scale, °R)
- ϵ_{cl} = cladding surface emissivity
- ϵ_{ba} = basket surface emissivity
- σ = Stefan-Boltzmann constant (Btu/hr-ft²·°R⁴)

The correlation has two terms; one representing radiation heat transfer, and one representing gaseous convection in an array of heat producing rods. Because the cladding temperature occurs in both terms, the correlation must be solved iteratively. A complete description of the correlation development is given in the Wooton-Epstein paper (reference 5.14). For this analysis, the same material properties and conditions were assumed with the Wooton-Epstein correlation that were used in the ANSYS model (see assumptions 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.16, 4.3.18, and 4.3.23):

Stefan-Boltzmann constant	1.714×10^{-9} (Btu/hr-ft ² ·°R ⁴)
Cladding emissivity	0.806 (0.002 inch oxidation layer, Ref. 5.40)
Basket emissivity	0.600 (Stainless Steel 316L)
Basket cell width	223.5 mm (8.8 inches)
SNF array size (N)	15 rods
Assembly active length	3601.7 mm (141.8 inches)
Axial peaking factor	1.25

The conservative peak cladding temperatures were calculated with the Wooton-Epstein correlation, the above values for required parameters, and the ANSYS calculated peak basket temperatures.

Tables 7.4-1 through 7.4-6 summarize the temperature data for each of the cases analyzed. Both "conservative" estimates of peak cladding temperatures using the Wooton-Epstein correlation, and "best estimate" predictions using the effective conductivity method are presented in the table. Peak cladding temperatures using effective conductivity are calculated directly in the ANSYS program, and Wooton-Epstein calculations for each time step in the ANSYS analysis were also performed for comparison.

The thermal history for each case modeling the aluminum thermal shunt is presented graphically in Figures 7.4-1 and 7.4-3 through 7.4-6. Figure 7.4-2 graphically presents the temperature profile from the center of the waste package to the drift wall at the time of peak cladding temperature for the 83 MTU/acre thermal loading case. For the UCF WP designs with an aluminum thermal shunt, the highest peak conservative estimate for SNF cladding temperature was 272°C which can be compared to the thermal goal of 350°C. The results show that a greater WP spacing results in lower near-field temperatures. The single case with the a stainless steel thermal shunt shows that for a thermal loading of 100 MTU/acre, a material with a larger thermal conductivity should be selected in order to obtain a larger design margin to the thermal goals.

Peak temperatures inside the waste package occur between the time of emplacement and the time of peak drift wall temperatures. At emplacement the SNF heat load is at its highest, but the drift is still cool, and by the time of peak drift temperatures, the heat load has decayed so that internal temperature drops are lower. As indicated in Tables 7.4-1 through 7.4-6, the time of peak temperatures varies depending on thermal loading, WP spacing, WP internal design, and the time-dependent WP decay heat (SNF type). For most design basis SNF types, peak WP internal

temperatures will occur in less than 8 years after emplacement even though waste package surface temperatures do not peak for 10 years or more. The timing and magnitude of the peak cladding temperatures experienced is very dependant upon the SNF basket design, the design basis SNF and the thermal loading conditions. By 100 years, however, the temperature drop across the WP (from center to edge using the effective thermal conductivity model) has dropped to less than 30°C.

While 83 MTU/acre (Figures 7.4-1 and 7.4-2) is considered a more likely scenario for a high thermal loading, a higher thermal loading of 100 MTU/acre (Figure 7.4-3) was also evaluated to bound the WP internal temperatures for the full range of possible thermal loadings. The combination of short WP spacing and high thermal loading resulted in the highest temperature of all of the cases. SNF cladding temperatures peaked at 251°C (272°C for Wootton-Epstein correlation) and average repository horizon temperatures remained above 150°C past 1000 years. Calculations at LLNL (Ref. 5.32) have shown that above boiling conditions will persist for thousands of years at AMLs in this range, however, some thermal goals are close to upper limits.

Figure 7.4-4 displays the thermal history of the 21 PWR UCF waste package at 25 MTU/acre (6.2 kgU/m²) with the long WP spacing (low thermal loading #1) for the MGDS design basis SNF. Peak internal temperatures are lowest of all the cases due to the long WP spacing.

Figure 7.4-5 displays the thermal history of the 21 PWR UCF waste package for low thermal loading #2 and for the MGDS design basis SNF. Because the WP spacing is similar to that for high thermal loading #2, similar temperatures are predicted for the first few years of emplacement. However, as thermal loading effects emerge, all of the low thermal loading results converge.

Figure 7.4-6 displays the thermal history of the 21 PWR UCF waste package for low thermal loading #3 and for the MGDS design basis SNF. The highest internal temperature for all cases occurred where the MGDS design basis SNF is used and the shortest WP spacing (16.2 m) defines the thermal loading. The peak temperatures occur before drift-to-drift effects emerge such that WP spacing drives the near-field temperatures and high thermal loading #1 and low thermal loading #3 have nearly the same peak cladding temperature.

Table 7.4-1. High Thermal Load #1; 21 PWR UCF Waste Package Thermal Results

21 PWR UCF WP (all temperatures are in deg. C)

100 MTU/acre with 16.165 m WP Spacing

10 year old, 48 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Peak SNF Temp.		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	226	197	171	69	26	26	26	26
0.1	846.16	247	220	196	98	71	48	30	26
0.2	842.37	252	225	202	105	79	57	36	27
0.3	838.63	255	228	205	109	85	62	40	27
0.4	834.95	257	231	207	113	89	66	44	29
0.5	831.32	258	232	209	116	92	70	47	30
0.6	827.74	259	234	211	118	95	73	49	32
0.7	824.20	260	235	212	120	97	75	52	34
0.8	820.72	261	236	214	122	100	78	54	36
0.9	817.28	262	237	215	123	102	80	56	38
1	813.88	263	238	216	125	103	82	58	40
2	785.03	267	242	222	135	116	95	73	55
3	760.06	269	245	225	142	124	104	84	67
4	738.57	270	247	228	147	131	111	91	75
5	720.95	271	249	230	152	136	117	97	82
6	700.07	271	249	231	156	141	122	102	88
7	683.86	271	250	233	159	145	127	106	92
8	668.50	272	251	234	162	148	130	110	95
9	654.04	271	250	234	164	151	133	113	97
10	642.55	271	250	234	166	153	136	116	99
20	529.86	265	247	233	177	167	154	138	125
30	445.36	259	243	232	185	177	165	152	141
40	380.70	252	238	228	188	181	171	160	150
50	327.78	244	232	223	188	182	174	164	155
60	286.22	238	226	218	188	183	175	166	159
70	252.65	232	221	214	187	182	175	167	161
80	225.35	226	216	210	186	181	175	168	162
90	203.85	221	212	206	184	180	174	168	162
100	185.04	217	208	203	183	179	174	168	162
200	105.07	196	191	187	176	174	170	166	163
300	80.32	187	182	179	171	169	166	163	160
400	66.61	181	177	175	168	166	164	161	159
500	57.58	178	174	172	166	164	162	160	158
600	50.41	174	171	169	164	162	161	159	157
700	44.98	171	168	166	161	160	159	157	155
800	40.31	167	165	163	159	158	156	155	153
900	36.59	164	162	160	156	155	154	153	151
1000	33.52	161	159	158	154	153	152	151	149

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Table 7.4-2. High Thermal Load #2; 21 PWR UCF Waste Package Thermal Results

21 PWR WP (all temperatures are in deg. C)

83 MTU/acre with 19.477 m WP Spacing

10 year old, 48 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	PEak SNF Temp.		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	226	197	171	69	26	26	26	26
0.1	846.16	246	219	194	97	69	47	30	26
0.2	842.37	250	223	199	102	76	55	35	27
0.3	838.63	252	226	202	106	81	60	39	27
0.4	834.95	254	227	204	109	84	63	42	29
0.5	831.32	255	229	206	111	87	66	45	30
0.6	827.74	256	230	207	113	89	69	47	32
0.7	824.20	256	231	208	114	91	71	49	33
0.8	820.72	257	231	209	116	93	73	51	35
0.9	817.28	258	232	209	117	95	74	53	36
1	813.88	258	232	210	118	96	76	55	38
2	785.03	261	236	215	127	107	88	67	51
3	760.06	262	238	218	134	115	96	77	61
4	738.57	263	239	219	138	120	102	84	69
5	720.95	263	240	221	142	125	107	89	75
6	700.07	263	240	222	145	129	112	94	80
7	683.86	262	240	222	148	132	115	98	85
8	668.50	262	241	223	150	135	119	101	89
9	654.04	261	240	223	152	137	121	104	92
10	642.55	261	240	223	153	139	123	106	94
20	529.86	250	232	218	160	149	136	122	109
30	445.36	241	224	212	164	155	144	132	122
40	380.70	232	217	206	165	157	148	138	129
50	327.78	224	210	200	165	158	150	141	134
60	286.22	216	204	195	164	158	151	143	136
70	252.65	210	198	191	163	158	151	144	138
80	225.35	204	193	186	162	156	151	144	139
90	203.85	199	189	183	160	156	150	144	139
100	185.04	195	185	180	159	155	150	144	139
200	105.07	174	168	164	152	150	146	143	140
300	80.32	165	160	157	148	146	143	141	138
400	66.61	160	156	153	146	144	142	139	138
500	57.58	157	152	150	144	142	140	138	137
600	50.41	153	149	147	142	140	139	137	135
700	44.98	150	146	145	140	138	137	135	134
800	40.31	147	144	143	138	137	135	134	133
900	36.59	145	142	141	136	135	134	133	132
1000	33.52	143	140	139	135	134	133	132	131

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Table 7.4-3. Low Thermal Load #1; 21 PWR UCF Waste Package Thermal Results

21 PWR UCF WP (all temperatures are in deg. C)

25 MTU/acre with 32.331 m WP Spacing

10 year old, 48 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Peak SNF Temp.		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	225	197	170	69	26	26	26	26
0.1	846.16	244	217	192	94	66	46	30	26
0.2	842.37	247	220	196	99	72	52	35	26
0.3	838.63	248	221	197	101	75	56	38	26
0.4	834.95	249	222	199	103	77	59	40	26
0.5	831.32	249	223	199	104	79	61	42	26
0.6	827.74	250	223	200	106	80	62	44	26
0.7	824.20	250	224	200	107	82	64	45	26
0.8	820.72	250	224	201	107	83	65	46	26
0.9	817.28	250	224	201	108	84	66	47	26
1	813.88	250	224	201	109	84	67	48	26
2	785.03	249	223	201	112	89	72	54	28
3	760.06	247	222	200	114	92	75	58	30
4	738.57	244	220	199	115	94	77	60	32
5	720.95	242	218	197	116	95	79	62	34
6	700.07	240	216	196	116	96	80	63	36
7	683.86	237	214	194	117	97	81	65	38
8	668.50	235	212	193	117	97	82	66	39
9	654.04	233	210	191	117	98	83	67	41
10	642.55	231	209	190	117	98	83	68	42
20	529.86	212	192	175	114	99	87	74	52
30	445.36	196	178	163	111	97	87	76	58
40	380.70	182	165	152	108	95	86	77	61
50	327.78	170	155	143	104	93	85	77	63
60	286.22	161	146	136	102	91	84	77	64
70	252.65	152	139	129	99	90	84	77	65
80	225.35	145	132	124	97	88	82	76	66
90	203.85	139	127	120	95	87	82	76	66
100	185.04	134	123	116	93	86	81	75	67
200	105.07	110	102	98	85	80	77	73	68
300	80.32	101	95	91	81	77	75	72	68
400	66.61	96	90	87	79	76	74	71	68
500	57.58	92	87	85	77	74	73	71	68
600	50.41	89	84	82	76	73	72	70	67
700	44.98	87	82	80	75	72	71	69	67
800	40.31	84	80	78	73	71	70	69	66
900	36.59	82	79	77	72	70	69	68	66
1000	33.52	81	77	76	71	70	68	67	65

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Table 7.4-4. Low Thermal Load #2; 21 PWR UCF Waste Package Thermal Results

21 PWR UCF WP (all temperatures are in deg. C)

25 MTU/acre with 21.554 m WP Spacing

10 year old, 48 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Peak SNF Temp.		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpin
0	850.01	225	197	170	69	26	26	26	26
0.1	846.16	245	218	193	96	68	47	30	26
0.2	842.37	249	222	198	101	74	54	35	26
0.3	838.63	250	224	200	104	79	58	39	26
0.4	834.95	252	225	202	107	82	62	41	26
0.5	831.32	253	226	203	109	84	64	44	26
0.6	827.74	253	227	204	111	86	66	46	26
0.7	824.20	254	228	205	112	88	68	48	26
0.8	820.72	254	229	206	113	90	70	49	26
0.9	817.28	255	229	206	114	91	71	50	26
1	813.88	255	229	207	115	92	73	52	26
2	785.03	256	231	209	122	100	81	60	26
3	760.06	255	230	209	125	105	86	66	27
4	738.57	253	229	209	127	107	89	69	28
5	720.95	252	228	208	128	109	92	72	29
6	700.07	250	226	207	129	111	93	74	30
7	683.86	248	225	206	130	112	95	76	31
8	668.50	246	224	205	131	113	96	77	33
9	654.04	244	222	203	130	113	97	78	34
10	642.55	242	220	202	130	113	97	79	35
20	529.86	222	202	187	127	112	99	84	46
30	445.36	206	187	173	122	110	98	85	52
40	380.70	191	174	161	117	106	96	84	56
50	327.78	178	162	151	113	103	94	84	59
60	286.22	167	153	143	109	100	92	83	61
70	252.65	159	145	136	106	97	90	82	62
80	225.35	151	138	130	103	95	88	81	63
90	203.85	145	133	125	101	93	87	80	64
100	185.04	139	128	121	99	92	86	79	64
200	105.07	113	106	101	88	83	80	76	67
300	80.32	104	97	94	84	80	77	74	67
400	66.61	98	92	90	81	78	76	73	67
500	57.58	94	89	87	79	76	74	72	67
600	50.41	91	86	84	78	75	73	71	67
700	44.98	88	84	82	76	74	72	70	66
800	40.31	86	82	80	75	73	71	70	66
900	36.59	84	80	78	74	72	70	69	65
1000	33.52	82	78	77	73	71	69	68	65

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Table 7.4-5. Low Thermal Load #3; 21 PWR UCF Waste Package Thermal Results

21 PWR UCF WP (all temperatures are in deg. C)

25 MTU/acre with 16.165 m WP Spacing

10 year old, 48 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Peak SNF Temp.		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Rock	3m Rock	Df Midpln
0	850.01	225	197	171	69	26	26	26	26
0.1	846.16	247	220	195	98	71	48	30	26
0.2	842.37	251	225	201	105	79	57	36	26
0.3	838.63	254	228	204	109	85	62	40	26
0.4	834.95	256	230	207	113	89	66	43	26
0.5	831.32	258	232	209	116	92	70	46	26
0.6	827.74	259	233	210	118	95	73	49	26
0.7	824.20	260	234	212	120	97	75	51	26
0.8	820.72	261	235	213	121	99	77	53	26
0.9	817.28	261	236	214	123	101	79	55	26
1	813.88	262	237	215	124	103	81	57	26
2	785.03	264	240	219	133	113	92	68	26
3	760.06	264	241	220	138	119	98	75	26
4	738.57	264	241	221	141	123	102	79	26
5	720.95	263	240	221	143	126	106	83	27
6	700.07	261	239	220	144	128	108	86	27
7	683.86	260	238	219	145	129	110	88	28
8	668.50	258	237	219	146	130	111	90	29
9	654.04	257	235	217	146	131	113	91	29
10	642.55	255	234	216	146	131	113	92	30
20	529.86	236	217	202	143	131	115	97	39
30	445.36	218	201	187	138	126	113	97	46
40	380.70	202	186	174	131	121	109	96	51
50	327.78	189	173	163	125	116	106	94	55
60	286.22	177	163	153	120	112	102	92	57
70	252.65	167	154	146	116	108	100	90	59
80	225.35	159	147	139	112	104	97	88	60
90	203.85	152	141	133	109	102	95	87	61
100	185.04	146	135	128	106	100	93	85	62
200	105.07	118	110	106	93	88	84	80	65
300	80.32	107	101	97	87	84	80	77	66
400	66.61	101	95	93	84	81	78	75	66
500	57.58	97	92	89	82	79	77	74	66
600	50.41	93	88	86	80	77	75	73	66
700	44.98	90	86	84	78	76	74	72	66
800	40.31	87	83	82	77	74	73	71	65
900	36.59	85	82	80	75	73	72	70	65
1000	33.52	83	80	78	74	72	71	69	64

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Table 7.4-6. High Thermal Load #1; SS316 Thermal Shunt Thermal Results

21 PWR UCF WP (SS316 Thermal Shunts; all temperatures are in deg. C)

100 MTU/acre with 16.165 m WP Spacing

10 year old, 48 GWd/MTU burnup design basis SNF (WPD)

Time (years)	Heat Load (W/assy)	Peak SNF Temp.		ANSYS FEM Temperature Results (Deg. C)					
		Wooten-E	Eff Cond	Basket	WP Side	Drift Wall	1m Pock	3m Pock	Df Midph
0	850.01	347	329	310	69	26	26	26	26
0.1	846.16	360	343	325	98	71	48	30	26
0.2	842.37	363	346	328	105	79	57	36	27
0.3	838.63	365	347	330	109	85	62	40	27
0.4	834.95	366	348	331	113	89	66	44	29
0.5	831.32	366	349	332	116	92	70	47	30
0.6	827.74	367	350	332	118	95	73	49	32
0.7	824.20	367	350	333	120	97	75	52	34
0.8	820.72	367	350	333	122	100	78	54	36
0.9	817.28	367	350	333	123	102	80	56	38
1	813.88	367	350	334	125	103	82	58	40
2	785.03	366	350	334	135	116	95	73	55
3	760.06	365	348	333	142	124	104	84	67
4	738.57	363	347	332	147	131	111	91	75
5	720.95	361	346	331	152	136	117	97	82
6	700.07	359	344	329	156	141	122	102	88
7	683.86	357	342	328	159	145	127	106	92
8	668.50	355	340	326	162	148	130	110	95
9	654.04	353	338	325	164	151	133	113	97
10	642.55	351	337	323	166	153	136	116	99
20	529.86	332	319	307	177	167	154	138	125
30	445.36	317	305	295	185	177	165	152	141
40	380.70	302	291	282	188	181	171	160	150
50	327.78	289	279	270	188	182	174	164	155
60	286.22	277	268	260	188	183	175	166	159
70	252.65	267	258	252	187	182	175	167	161
80	225.35	258	250	244	186	181	175	168	162
90	203.85	251	243	237	184	180	174	168	162
100	185.04	244	237	232	183	179	174	168	162
200	105.07	213	208	205	176	174	170	166	163
300	80.32	200	195	193	171	169	166	163	160
400	66.61	192	189	186	168	166	164	161	159
500	57.58	187	184	182	166	164	162	160	158
600	50.41	183	180	178	164	162	161	159	157
700	44.98	179	176	174	161	160	159	157	155
800	40.31	174	172	170	159	158	156	155	153
900	36.59	171	168	167	156	155	154	153	151
1000	33.52	167	165	164	154	153	152	151	149

Figure 7.4-1. 21 PWR UCF Temperatures, High Thermal Load #2 (83 MTU/Acre)

Figure 7.4-2. Temperature Profile, 21 PWR UCF, Horizontal Cut

Figure 7.4-3. 21 PWR UCF Temperatures, High Thermal Load #1 (100 MTU/Acre)

Figure 7.4-4. 21 PWR UCF Temperatures, Low Thermal Load #1 (25 MTU/Acre 32.3 m)

Figure 7.4-5. 21 PWR UCF Temperatures, Low Thermal Load #2 (25 MTU/Acre 21.6 m)

Figure 7.4-6. 21 PWR UCF Temperatures, Low Thermal Load #3 (25 MTU/Acre 16.2 m)

8. Conclusions

Table 8-1 summarizes the peak temperatures and the time of occurrence for each of the cases analyzed. The thermal loading scenarios indicated in Table 8-1 are defined in Table 7.1-1, and the design basis SNF descriptions are provided in Table 7.2-1. Both "conservative" estimates of peak cladding temperatures using the Wooton-Epstein correlation and "best estimate" predictions using the effective conductivity method are presented in the table. Peak cladding temperatures using effective conductivity are calculated directly in the ANSYS program, and Wooton-Epstein calculations for each time step in the ANSYS analysis were also performed for comparison.

Table 8-1. 21 PWR UCF Thermal Analysis Results Summary

Thermal Load	Design Basis SNF	Peak Cladding				Peak Basket		WP Surface	
		Cons. Est.		Best Est.					
		°C	yrs	°C	yrs	°C	yrs	°C	yrs
High #1	MGDS	272	8	251	8	234	10	188	50
High #2	MGDS	263	5	241	8	223	8	165	40
Low #1	MGDS	250	0.9	224	1	201	1	117	8
Low #2	MGDS	256	2	231	2	209	3	131	8
Low #3	MGDS	264	3	241	3	221	5	146	10
High #1 (SS316)	MGDS	367	1	350	1	334	2	188	50

The repository thermal loading has not been specified by the MGDS program and will not be finally established for years. Therefore, the thermal evaluation of the 21 PWR UCF WP conceptual design with respect to the repository has considered a number of thermal loading scenarios. For each repository thermal loading scenario, a 3-D repository emplacement (Ref. 5.13) and 2-D waste package evaluation were performed. As indicated by the data provided in Table 8-1, the peak SNF cladding temperatures remain below 350°C and the temperatures for the materials used in the UCF WP conceptual designs are not such that melting or rapid mechanical failure would occur.

The results of the thermal evaluations indicate that the 21 PWR UCF WP conceptual design can satisfy the thermal limitations (i.e., goals) specified in Section 4.2.5 during normal expected conditions for disposal in the MGDS and therefore has a reasonable chance to meet the MGDS requirements for permanent disposal. Thus, the UCF WP conceptual design may be used as a point of departure for analysis of design changes put forth by the UCF WP designers. However, two points should be noted: 1) more analysis is required to determine conditions for anticipated off-normal conditions and drift backfill; and 2) this analysis relies on unqualified design input data. These items need to be considered by any work which uses these results.

9. Attachments

The attachments included are summarized in Table 9-1.

Table 9-1. Attachments of Supporting Documentation for the 21 PWR UCF MGDS Analysis

Attachment Number	Title / Description	# of Pages
I	PHIA code listing (File name: phia00b.cpp date: 2/15/95)	4
II	PHIA code database input; reference 5.30 (File name: heatdat.dat date: 8/8/94)	6
III	PHIA code output; ANSYS ready input. (File name: snf1048.dat date: 3/4/95)	1
IV	Material properties file for ANSYS. (File name: props01.dat date: 3/7/95)	3
V	Effective thermal conductivity file; ref. 5.40 (File name: pwr15e.parm date: 3/7/95)	3
VI	Model mesh plots geometry; 1) full mesh, 2) full mesh/no He, 3) radiation surfaces (File name: ansysplots.doc date: 8/4/95)	3
VII	Boundary condition file for high thermal load #1; reference 5.13 (File name: c21x5a.parm used in Attachment XII and XVII date: 3/31/95)	11
VIII	Boundary condition file for high thermal load #2; reference 5.13 (File name: c21b5a.parm used in Attachment XIII date: 3/7/95)	11
IX	Boundary condition file for low thermal load #1; reference 5.13 (File name: c21w5a.parm used in Attachment XIV date: 3/7/95)	11
X	Boundary condition file for low thermal load #2; reference 5.13 (File name: c21j5a.parm used in Attachment XV date: 3/7/95)	11
XI	Boundary condition file for low thermal load #3; reference 5.13 (File name: c21h5a.parm used in Attachment XVI date: 3/7/95)	11
XII	ANSYS output for the 100 MTU/acre thermal loading for the 21 PWR UCF WP (File name: ucf21x.old.out, WP spacing: 16.2 m; drift spacing: 22.5 m date: 6/12/95)	204
XIII	ANSYS output for the 83 MTU/acre thermal loading for the 21 PWR UCF WP (File name: ucf21b.old.out, WP spacing: 19.5 m; drift spacing: 22.5 m date: 6/12/95)	223
XIV	ANSYS output for the 25 MTU/acre thermal loading for the 21 PWR UCF WP (File name: ucf21w.old.out, WP spacing: 32.3 m; drift spacing: 45.0 m date: 6/15/95)	248
XV	ANSYS output for the 25 MTU/acre thermal loading for the 21 PWR UCF WP (File name: ucf21j.old.out, WP spacing: 21.6 m; drift spacing: 67.5 m date: 6/14/95)	245
XVI	ANSYS output for the 25 MTU/acre thermal loading for the 21 PWR UCF WP (File name: ucf21h.old.out, WP spacing: 16.2 m; drift spacing: 90.0 m date: 6/13/95)	240
XVII	ANSYS output: 100 MTU/acre thermal loading for the 21 PWR UCF WP (SS316 thermal shunt) (File name: ucf21ss.old.out, WP spacing: 16.2 m; drift spacing: 22.5 m date: 6/13/95)	250

```

/*phia.cpp Package Heat Input to ANSYS. Calculates heat heat as a
function of age, burnup, and initial enrichment which are input by the user.
If the user enters the value 0 for initial enrichment, the program calculates
the average initial enrichment expected for the input value of burnup
(based on the actual and EIA forecast of fuel loading and discharge
characteristics). The heat is evaluated and output for a series of times
up to 10,000 years, pre-selected to be most appropriate for input to ANSYS
temperature calculations of the waste package emplaced in the repository.
The heat calculation is performed by interpolation in a table of heat values
for specified values of age, burnup, and initial enrichment for both PWR
and BWR fuel types.
//subroutines, which are delivered by Systems Analysis Vienna in a
//compiled form and linked with the command
// [path]link heat.obj getheat.obj phia00b.obj,.,,;
*/
#include <conio.h>
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <float.h>
#include <string.h>
#include <ctype.h>
#include <time.h>
#include <graph.h>
#include "heat.h"

int bmatch=0;    //for testing match of input burnup value
Heat h;          //heat computation (interpolation) object (subroutine)
                //of GetHeat class
float icheck(float,float,float,int); //Sanity check for data input
void buildref(); //Builds reference table for interpolating enrichment
float refburnup[7][2], //Burnup values from which interpolation gives
                //expected enrichment
        assay[7][2][3], //Enrichment values from which interpolation gives
                //expected enrichment
        getfloat(char*,int,int);

void main()
{long int i,j,k, //Temporary variables for indexing and looping
  maxtime,      //emplacement age plus 10,000
  short type;   //Fueltype from user input (BWR=>0; PWR=>P
  float x,      //Computed expected enrichment, if user inputs a=0
  burnup,       //User input burnup
  mtupassy,     //User input MTU/assy
  age,          //User input age at emplacement
  a,            //User input initial enrichment
  time,         //Age points at which heat is computed and output
  eps=.00001,   //Used to avoid testing for equality of floating point numbers
  times[]={.1, 1.0, 10.0, 100.0, 1000.0,10000.0}, //times to shift
                //time increments
  dtimes[]={.01, .05, .5, 5, 50, 500}; //Time increments for the above shift
                //times
  unsigned int num, //Index for main output loop
  total, //Counts the cumulative number of output heat values,
        //used for output at the head of each line
  cycle; //Counter for times[] and dtimes[]
  char buf[80], //Variable to receive output file name
  c,datestr[15],numstr[3];
  FILE *fout,*ferr;
  buildref();
  ferr=fopen("junk.e","w");
  _clearscreen(_GCLEARSCREEN);
  printf("*****\n");
  printf("*** Package Heat Input to ANSYS (PHIA) **\n");
  printf("*** Enter the following parameters, separated by blanks, CR at end. **\n");
  printf("*** **\n");
  printf("*** Age at emplacement in years (must be greater than 1) **\n");
  printf("*** Burnup (MWD/MTU), 10000<=burnup<=60000 for PWR **\n");
  printf("*** 7500<=burnup<=50000 for BWR **\n");
  printf("*** Enrichment in percent (zero if you wish to use average) **\n");

```

```

printf("*** Fuel Type (BWR=b, PWR=p) **\n");
printf("*** Mass of fuel per assembly (MTU/assy) **\n");
printf("*** **\n");
printf("*** Typical example: 5 35000 3.75 p .43 **\n");
printf("*****\n");
num=scanf("%f %f %c %f",&age,&burnup,&a,&c,&mtupassy);
type=(tolower(c)=='b')?0:1;
x=ichk(age,burnup,a,type);
printf("\nEnter name of file for output\n");
scanf("%s",buf);
while((fout=fopen(buf,"w"))==NULL)
{printf("Please enter a valid filename.\n");
scanf("%s",buf);}
maxtime=age+10000;
strdate(datestr);
fprintf(fout,"/COM, ");
fprintf(fout,*****\n");
fprintf(fout,"/COM, ");
fprintf(fout,*** History of SNF Assembly Heat Generation Rates **\n");
fprintf(fout,"/COM, ");
fprintf(fout,*** Output of PHIA, SCSI: B00000000-01717-1200-3000X Rev.00B **\n");
fprintf(fout,"/COM, ");
fprintf(fout,*** **\n");
fprintf(fout,"/COM, ");
fprintf(fout,*** Executable File Name: PHIA00B.EXE **\n");
fprintf(fout,"/COM, ");
fprintf(fout,*** Output File Name: %-12s%22s**\n",buf," ");
fprintf(fout,"/COM, ");
fprintf(fout,*** Execution Date: %-12s%22s**\n",datestr," ");
fprintf(fout,"/COM, ");
fprintf(fout,*** Start Age (years): %-12.1f%22s**\n",age," ");
fprintf(fout,"/COM, ");
fprintf(fout,*** Decay Period (years): %-12d%22s**\n",10000," ");
if(a==0)
{fprintf(fout,"/COM, ");
fprintf(fout,*** Default average enrichment for the burnup specified **\n);}
fprintf(fout,"/COM, ");
fprintf(fout,*** Enrichment (percent): %-12.2f%22s**\n",
(a>0)?a:x," ");
fprintf(fout,"/COM, ");
fprintf(fout,*** Burnup (MWd/MTU): %-12.0f%22s**\n",burnup," ");
fprintf(fout,"/COM, ");
fprintf(fout,*** Assembly Type: %-12s%22s**\n",
(type==0)?"BWR":"PWR"," ");
fprintf(fout,"/COM, ");
fprintf(fout,*** SNF U Mass (MTU/assy): %-12.3f%22s**\n",mtupassy," ");
fprintf(fout,"/COM, ");
fprintf(fout,*** **\n");
fprintf(fout,*** ASSY(#,1) is the SNF assembly heat in Watts. **\n");
fprintf(fout,"/COM, ");
fprintf(fout,*** ASSY(#,0) is the time post emplacement in years. **\n");
fprintf(fout,"/COM, ");
fprintf(fout,*****\n");
time=.000001;
fprintf(fout,"ASSY( 1,1)=%9.2f",
mtupassy*h.GetHeat(age+time,type,burnup,a));
num=1;
total=1;
cycle=0;
time=0;
while(time<10000) //Main output loop
{total++;
if(time==times[cycle]-eps)cycle++;
time+=dtimes[cycle];
fprintf(fout,"%9.2f",mtupassy*h.GetHeat(age+time,type,burnup,a));
if(num<5)num++;
else
{if(time<10000)fprintf(fout,"\nASSY(%2u,1)=",total+1);
num=0;}}

```

```

fprintf(fout,"\n");
fprintf(fout,"ASSY( 1,0)=%9.6f",1.e-6);
num=1;
total=1;
cycle=0;
time=0;
while(time<10000)
{
    total++;
    fprintf(ferr,"%d %f %f\n",cycle,time,times[cycle]);
    if(time>=times[cycle]-eps)cycle++;
    time+=dtimes[cycle];
    fprintf(fout,"%9.2f",time);
    if(num<5)num++;
    else
        {if(time<10000)fprintf(fout,"\nASSY(%2u,0)=",total+1);
          num=0;}}
fprintf(fout,"\n");
fprintf(fout,"ASSY( 0,1)=1.0\n");
fprintf(fout,"/COM, ");
fprintf(fout,"*****\n");
fprintf(fout,"/EOF\n");

```

```

//This routine checks the input values for age, burnup, and enrichment
//for sanity. It also calculates the expected enrichment (for the input
//values of fueltype and burnup) if the user inputs 0.
float icheck(float age,float burn, float rich,int type)
{int i=0,j=0;
float x;
if(age<1) //Age must be at least 1 yr (by present law at least 5)
    {printf("Age cannot be less than 1. Please try again\n");
    exit(0);}
if(burn>refburnup[5][type])//Must fall within burnup range of heat value table
    {printf("Burnup too high, please try again\n");
    exit(0);}
if(burn<refburnup[0][type])
    {printf("Burnup too low, please try again\n");
    exit(0);}
while((i<5)&&(burn>refburnup[i][type]+1))i++;
if (burn==refburnup[i][type]) bmatch=1;
if(rich>0)
    {if((bmatch==1)&&((rich<assay[i][type][0])||(rich>assay[i][type][2])))
        {printf("Enrichment must be between %-.3f and %-.3f\n",
        assay[i][type][0],assay[i][type][2]);
        printf("Please try again\n");
        exit(0);}
    else if((bmatch==0)&&((rich<assay[i][type][0])||(rich>assay[i-1][type][2])))
        {printf("Enrichment must be between %-.3f and %-.3f\n",
        assay[i][type][0],assay[i-1][type][2]);
        printf("
        Please try again\n");
        exit(0);}}
if(rich==0) //Compute expected enrichment for this burnup
    if (bmatch==1) return(assay[i][type][1]); //If match, no need to interpolate
    else //Otherwise, interpolate
        {x=assay[i-1][type][1]+(burn-refburnup[i-1][type])*
        (assay[i][type][1]-assay[i-1][type][1])/
        (refburnup[i][type]-refburnup[i-1][type]);
        return(x);}
return(0);}

```

```

//This routine builds the reference table used to check the sanity of
//the burnup and enrichment values input by the user, and to calculate
//the expected enrichment if the user enters the value 0.
void buildref()
{int i,j,k; //indexes for arrays in iteration loops
char buf[300], //Buffer for reading data table input line
c; //Variable to test fueltype
FILE *fin;
if ((fin=fopen("heatdat.dat","r"))==NULL)

```

```
{printf("Cant open heatdat\n");exit(0);}
j=0;k=0;i=0;
while(fgets(buf,300,fin)!=NULL)
  if(((c=buf[0])== 'B')|| (c=='P'))//Test whether this line has reference values
    {j=(c=='B')?0:1; //If so, read them.
      refburnup[i][j]=getfloat(buf,4,7);
      assay[i][j][k]=getfloat(buf,13,5);
      if(++k>2)
        {k=0;
          i++;}
      if(i>5)i=0;}
fclose(fin);}

//routine to read a float from a character string
float getfloat(char string[300], int start, int length)
{char temp[20];
  int i,j;
  for(i=start;i<start+length;i++) temp[i-start]=string[i];
  temp[length]='\0';
  return(atof(temp));}
```

- .503800	.121756	-.001018
.196200	.121756	-.001018
.896200	.121756	-.001018
.169400	.085366	-.000851
.869400	.085366	-.000851
1.569400	.085366	-.000851

5A TOTAL HEAT 92

SA TOTAL HEAT 92		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.										
		21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.										
		41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.										
		61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.										
		81.	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.										
		101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	114.	115.	116.	117.	118.	119.	120.										
		121.	122.	123.	124.	125.	126.	127.	128.	129.	130.	140.	150.	200.	250.	300.	400.	500.	700.	1000.	1500.										
		2000.	2500.	3000.	4000.	5000.	7000.	10000.	20000.	50000.	100000.																				
BAR 7500.	.72	4.081E+03	1.881E+03	1.062E+03	6.797E+02	4.958E+02	4.005E+02	3.494E+02	3.195E+02	3.009E+02	2.887E+02	2.785E+02	2.712E+02	2.652E+02	2.600E+02	2.561E+02	2.515E+02	2.478E+02	2.443E+02	2.411E+02	2.385E+02										
		2.351E+02	2.323E+02	2.297E+02	2.272E+02	2.247E+02	2.223E+02	2.200E+02	2.177E+02	2.155E+02	2.137E+02	2.119E+02	2.092E+02	2.072E+02	2.052E+02	2.032E+02	2.012E+02	1.995E+02	1.975E+02	1.955E+02	1.938E+02										
		1.920E+02	1.903E+02	1.885E+02	1.868E+02	1.851E+02	1.835E+02	1.819E+02	1.803E+02	1.787E+02	1.776E+02	1.757E+02	1.742E+02	1.727E+02	1.713E+02	1.699E+02	1.685E+02	1.671E+02	1.658E+02	1.645E+02	1.632E+02										
		1.619E+02	1.605E+02	1.594E+02	1.581E+02	1.569E+02	1.558E+02	1.546E+02	1.534E+02	1.523E+02	1.512E+02	1.501E+02	1.490E+02	1.480E+02	1.470E+02	1.459E+02	1.449E+02	1.439E+02	1.430E+02	1.420E+02	1.411E+02										
		1.402E+02	1.393E+02	1.384E+02	1.375E+02	1.366E+02	1.358E+02	1.350E+02	1.341E+02	1.333E+02	1.326E+02	1.318E+02	1.310E+02	1.303E+02	1.295E+02	1.288E+02	1.281E+02	1.274E+02	1.267E+02	1.260E+02	1.253E+02										
		1.248E+02	1.242E+02	1.235E+02	1.229E+02	1.223E+02	1.217E+02	1.211E+02	1.205E+02	1.200E+02	1.194E+02	1.189E+02	1.183E+02	1.178E+02	1.173E+02	1.168E+02	1.162E+02	1.157E+02	1.153E+02	1.148E+02	1.143E+02										
		1.138E+02	1.134E+02	1.129E+02	1.125E+02	1.120E+02	1.116E+02	1.112E+02	1.107E+02	1.103E+02	1.099E+02	1.061E+02	1.038E+02	9.135E+01	8.352E+01	7.753E+01	6.751E+01	5.945E+01	4.672E+01	3.404E+01	2.244E+01										
		1.710E+01	1.442E+01	1.303E+01	1.166E+01	1.092E+01	9.672E+00	8.278E+00	5.263E+00	1.971E+00	5.958E-01																				
		3.656E+03	1.651E+03	9.297E+02	5.970E+02	4.382E+02	3.564E+02	3.128E+02	2.874E+02	2.711E+02	2.602E+02	2.511E+02	2.443E+02	2.386E+02	2.337E+02	2.298E+02	2.253E+02	2.216E+02	2.181E+02	2.148E+02	2.120E+02										
		2.086E+02	2.058E+02	2.031E+02	2.005E+02	1.979E+02	1.955E+02	1.930E+02	1.907E+02	1.884E+02	1.864E+02	1.840E+02	1.819E+02	1.798E+02	1.777E+02	1.757E+02	1.737E+02	1.718E+02	1.699E+02	1.680E+02	1.662E+02										
		1.644E+02	1.626E+02	1.608E+02	1.591E+02																										

		1.209E+02 1.201E+02 1.194E+02 1.186E+02 1.178E+02 1.171E+02 1.164E+02 1.157E+02 1.150E+02 1.143E+02 1.081E+02 1.029E+02 8.662E+01 7.742E+01 7.130E+01 6.181E+01 5.456E+01 4.326E+01 3.212E+01 2.191E+01
BWR 22500.	1.72	1.718E+01 1.476E+01 1.347E+01 1.244E+01 1.138E+01 1.005E+01 8.602E+00 5.431E+00 2.092E+00 7.231E-01 7.089E+03 3.659E+03 2.276E+03 1.608E+03 1.268E+03 1.074E+03 9.601E+02 8.868E+02 8.358E+02 8.003E+02 7.682E+02 7.438E+02 7.230E+02 7.049E+02 6.908E+02 6.733E+02 6.597E+02 6.470E+02 6.351E+02 6.263E+02 6.139E+02 6.034E+02 5.984E+02 5.838E+02 5.765E+02 5.655E+02 5.568E+02 5.483E+02 5.401E+02 5.335E+02 5.267E+02 5.169E+02 5.094E+02 5.021E+02 4.950E+02 4.881E+02 4.813E+02 4.747E+02 4.682E+02 4.618E+02 4.557E+02 4.496E+02 4.437E+02 4.378E+02 4.322E+02 4.266E+02 4.211E+02 4.158E+02 4.105E+02 4.058E+02 4.007E+02 3.957E+02 3.908E+02 3.861E+02 3.816E+02 3.771E+02 3.727E+02 3.684E+02 3.642E+02 3.601E+02 3.560E+02 3.520E+02 3.481E+02 3.443E+02 3.406E+02 3.369E+02 3.333E+02 3.298E+02 3.264E+02 3.230E+02 3.197E+02 3.164E+02 3.132E+02 3.101E+02 3.071E+02 3.041E+02 3.011E+02 2.982E+02 2.954E+02 2.926E+02 2.899E+02 2.872E+02 2.846E+02 2.821E+02 2.796E+02 2.771E+02 2.747E+02 2.723E+02 2.700E+02 2.677E+02 2.655E+02 2.633E+02 2.611E+02 2.590E+02 2.569E+02 2.549E+02 2.529E+02 2.509E+02 2.490E+02 2.483E+02 2.459E+02 2.440E+02 2.422E+02 2.404E+02 2.387E+02 2.370E+02 2.354E+02 2.337E+02 2.321E+02 2.306E+02 2.290E+02 2.275E+02 2.261E+02 2.246E+02 2.232E+02 2.218E+02 2.204E+02 2.191E+02 2.177E+02 2.164E+02 2.151E+02 2.139E+02 2.126E+02 2.114E+02 2.102E+02 2.090E+02 2.079E+02 2.067E+02 2.056E+02 2.045E+02 1.945E+02 1.899E+02 1.577E+02 1.400E+02 1.280E+02 1.091E+02 9.511E+01 7.370E+01 5.301E+01 3.420E+01
BWR 22500.	2.42	2.553E+01 2.119E+01 1.894E+01 1.671E+01 1.556E+01 1.354E+01 1.142E+01 6.881E+00 2.525E+00 8.879E-01 6.605E+03 3.393E+03 2.116E+03 1.501E+03 1.191E+03 1.016E+03 9.130E+02 8.466E+02 8.001E+02 7.670E+02 7.371E+02 7.145E+02 6.950E+02 6.778E+02 6.643E+02 6.486E+02 6.353E+02 6.230E+02 6.113E+02 6.018E+02 5.897E+02 5.794E+02 5.696E+02 5.601E+02 5.510E+02 5.421E+02 5.334E+02 5.250E+02 5.168E+02 5.108E+02 5.044E+02 4.987E+02 4.862E+02 4.789E+02 4.719E+02 4.649E+02 4.582E+02 4.515E+02 4.451E+02 4.387E+02 4.325E+02 4.264E+02 4.205E+02 4.147E+02 4.090E+02 4.034E+02 3.978E+02 3.926E+02 3.874E+02 3.826E+02 3.777E+02 3.727E+02 3.679E+02 3.632E+02 3.585E+02 3.541E+02 3.497E+02 3.454E+02 3.412E+02 3.370E+02 3.330E+02 3.290E+02 3.251E+02 3.212E+02 3.175E+02 3.139E+02 3.102E+02 3.067E+02 3.032E+02 2.999E+02 2.965E+02 2.933E+02 2.901E+02 2.870E+02 2.839E+02 2.809E+02 2.780E+02 2.751E+02 2.722E+02 2.695E+02 2.668E+02 2.641E+02 2.615E+02 2.589E+02 2.564E+02 2.540E+02 2.515E+02 2.492E+02 2.469E+02 2.446E+02 2.424E+02 2.402E+02 2.380E+02 2.359E+02 2.339E+02 2.319E+02 2.299E+02 2.279E+02 2.260E+02 2.250E+02 2.239E+02 2.229E+02 2.219E+02 2.209E+02 2.191E+02 2.174E+02 2.157E+02 2.140E+02 2.124E+02 2.108E+02 2.092E+02 2.077E+02 2.062E+02 2.047E+02 2.032E+02 2.018E+02 2.004E+02 1.989E+02 1.974E+02 1.959E+02 1.945E+02 1.930E+02 1.915E+02 1.900E+02 1.885E+02 1.870E+02 1.855E+02 1.840E+02 1.825E+02 1.810E+02 1.795E+02 1.780E+02 1.765E+02 1.750E+02 1.735E+02 1.720E+02 1.705E+02 1.690E+02 1.675E+02 1.660E+02 1.645E+02 1.630E+02 1.615E+02 1.600E+02 1.585E+02 1.570E+02 1.555E+02 1.540E+02 1.525E+02 1.510E+02 1.495E+02 1.480E+02 1.465E+02 1.450E+02 1.435E+02 1.420E+02 1.405E+02 1.390E+02 1.375E+02 1.360E+02 1.345E+02 1.330E+02 1.315E+02 1.300E+02 1.285E+02 1.270E+02 1.255E+02 1.240E+02 1.225E+02 1.210E+02 1.195E+02 1.180E+02 1.165E+02 1.150E+02 1.135E+02 1.120E+02 1.105E+02 1.090E+02 1.075E+02 1.060E+02 1.045E+02 1.030E+02 1.015E+02 1.000E+02 9.885E+01 9.770E+01 9.655E+01 9.540E+01 9.425E+01 9.310E+01 9.195E+01 9.080E+01 8.965E+01 8.850E+01 8.735E+01 8.620E+01 8.505E+01 8.390E+01 8.275E+01 8.160E+01 8.045E+01 7.930E+01 7.815E+01 7.700E+01 7.585E+01 7.470E+01 7.355E+01 7.240E+01 7.125E+01 7.010E+01 6.895E+01 6.780E+01 6.665E+01 6.550E+01 6.435E+01 6.320E+01 6.205E+01 6.090E+01 5.975E+01 5.860E+01 5.745E+01 5.630E+01 5.515E+01 5.400E+01 5.285E+01 5.170E+01 5.055E+01 4.940E+01 4.825E+01 4.710E+01 4.595E+01 4.480E+01 4.365E+01 4.250E+01 4.135E+01 4.020E+01 3.905E+01 3.790E+01 3.675E+01 3.560E+01 3.445E+01 3.330E+01 3.215E+01 3.100E+01 2.985E+01 2.870E+01 2.755E+01 2.640E+01 2.525E+01 2.410E+01 2.295E+01 2.180E+01 2.065E+01 1.950E+01 1.835E+01 1.720E+01 1.605E+01 1.490E+01 1.375E+01 1.260E+01 1.145E+01 1.030E+01 9.185E+00 9.070E+00 8.955E+00 8.840E+00 8.725E+00 8.610E+00 8.495E+00 8.380E+00 8.265E+00 8.150E+00 8.035E+00 7.920E+00 7.805E+00 7.690E+00 7.575E+00 7.460E+00 7.345E+00 7.230E+00 7.115E+00 7.000E+00 6.885E+00 6.770E+00 6.655E+00 6.540E+00 6.425E+00 6.310E+00 6.195E+00 6.080E+00 5.965E+00 5.850E+00 5.735E+00 5.620E+00 5.505E+00 5.390E+00 5.275E+00 5.160E+00 5.045E+00 4.930E+00 4.815E+00 4.700E+00 4.585E+00 4.470E+00 4.355E+00 4.240E+00 4.125E+00 4.010E+00 3.895E+00 3.780E+00 3.665E+00 3.550E+00 3.435E+00 3.320E+00 3.205E+00 3.090E+00 2.975E+00 2.860E+00 2.745E+00 2.630E+00 2.515E+00 2.400E+00 2.285E+00 2.170E+00 2.055E+00 1.940E+00 1.825E+00 1.710E+00 1.595E+00 1.480E+00 1.365E+00 1.250E+00 1.135E+00 1.020E+00 9.085E+00 8.970E+00 8.855E+00 8.740E+00 8.625E+00 8.510E+00 8.395E+00 8.280E+00 8.165E+00 8.050E+00 7.935E+00 7.820E+00 7.705E+00 7.590E+00 7.475E+00 7.360E+00 7.245E+00 7.130E+00 7.015E+00 6.900E+00 6.785E+00 6.670E+00 6.555E+00 6.440E+00 6.325E+00 6.210E+00 6.095E+00 5.980E+00 5.865E+00 5.750E+00 5.635E+00 5.520E+00 5.405E+00 5.290E+00 5.175E+00 5.060E+00 4.945E+00 4.830E+00 4.715E+00 4.600E+00 4.485E+00 4.370E+00 4.255E+00 4.140E+00 4.025E+00 3.910E+00 3.795E+00 3.680E+00 3.565E+00 3.450E+00 3.335E+00 3.220E+00 3.105E+00 2.990E+00 2.875E+00 2.760E+00 2.645E+00 2.530E+00 2.415E+00 2.300E+00 2.185E+00 2.070E+00 1.955E+00 1.840E+00 1.725E+00 1.610E+00 1.495E+00 1.380E+00 1.265E+00 1.150E+00 1.035E+00 9.235E+00 9.120E+00 9.005E+00 8.890E+00 8.775E+00 8.660E+00 8.545E+00 8.430E+00 8.315E+00 8.200E+00 8.085E+00 7.970E+00 7.855E+00 7.740E+00 7.625E+00 7.510E+00 7.395E+00 7.280E+00 7.165E+00 7.050E+00 6.935E+00 6.820E+00 6.705E+00 6.590E+00 6.475E+00 6.360E+00 6.245E+00 6.130E+00 6.015E+00 5.900E+00 5.785E+00 5.670E+00 5.555E+00 5.440E+00 5.325E+00 5.210E+00 5.095E+00 4.980E+00 4.865E+00 4.750E+00 4.635E+00 4.520E+00 4.405E+00 4.290E+00 4.175E+00 4.060E+00 3.945E+00 3.830E+00 3.715E+00 3.600E+00 3.485E+00 3.370E+00 3.255E+00 3.140E+00 3.025E+00 2.910E+00 2.795E+00 2.680E+00 2.565E+00 2.450E+00 2.335E+00 2.220E+00 2.105E+00 1.990E+00 1.875E+00 1.760E+00 1.645E+00 1.530E+00 1.415E+00 1.300E+00 1.185E+00 1.070E+00 9.585E+00 9.470E+00 9.355E+00 9.240E+00 9.125E+00 9.010E+00 8.895E+00 8.780E+00 8.665E+00 8.550E+00 8.435E+00 8.320E+00 8.205E+00 8.090E+00 7.975E+00 7.860E+00 7.745E+00 7.630E+00 7.515E+00 7.400E+00 7.285E+00 7.170E+00 7.055E+00 6.940E+00 6.825E+00 6.710E+00 6.595E+00 6.480E+00 6.365E+00 6.250E+00 6.135E+00 6.020E+00 5.905E+00 5.790E+00 5.675E+00 5.560E+00 5.445E+00 5.330E+00 5.215E+00 5.100E+00 4.985E+00 4.870E+00 4.755E+00 4.640E+00 4.525E+00 4.410E+00 4.295E+00 4.180E+00 4.065E+00 3.950E+00 3.835E+00 3.720E+00 3.605E+00 3.490E+00 3.375E+00 3.260E+00 3.145E+00 3.030E+00 2.915E+00 2.800E+00 2.685E+00 2.570E+00 2.455E+00 2.340E+00 2.225E+00 2.110E+00 1.995E+00 1.880E+00 1.765E+00 1.650E+00 1.535E+00 1.420E+00 1.305E+00 1.190E+00 1.075E+00 9.965E+00 9.850E+00 9.735E+00 9.620E+00 9.505E+00 9.390E+00 9.275E+00 9.160E+00 9.045E+00 8.930E+00 8.815E+00 8.700E+00 8.585E+00 8.470E+00 8.355E+00 8.240E+00 8.125E+00 8.010E+00 7.895E+00 7.780E+00 7.665E+00 7.550E+00 7.435E+00 7.320E+00 7.205E+00 7.090E+00 6.975E+00 6.860E+00 6.745E+00 6.630E+00 6.515E+00 6.400E+00 6.285E+00 6.170E+00 6.055E+00 5.940E+00 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8.280E+00 8.165E+00 8.050E+00 7.935E+00 7.820E+00 7.705E+00 7.590E+00 7.475E+00 7.360E+00 7.245E+00 7.130E+00 7.015E+00 6.900E+00 6.785E+00 6.670E+00 6.555E+00 6.440E+00 6.325E+00 6.210E+00 6.095E+00 5.980E+00 5.865E+00 5.750E+00 5.635E+00 5.520E+00 5.405E+00 5.290E+00 5.175E+00 5.060E+00 4.945E+00 4.830E+00 4.715E+00 4.600E+00 4.485E+00 4.370E+00 4.255E+00 4.140E+00 4.025E+00 3.910E+00 3.795E+00 3.680E+00 3.565E+00 3.450E+00 3.335E+00 3.220E+00 3.105E+00 2.990E+00 2.875E+00 2.760E+00 2.645E+00 2.530E+00 2.415E+00 2.300E+00 2.185E+00 2.070E+00 1.955E+00 1.840E+00 1.725E+00 1.610E+00 1.495E+00 1.380E+00 1.265E+00 1.150E+00 1.035E+00 9.235E+00 9.120E+00 9.005E+00 8.890E+00 8.775E+00 8.660E+00 8.545E+00 8.430E+00 8.315E+00 8.200E+00 8.085E+00 7.970E+00 7.855E+00 7.740E+00 7.625E+00 7.510E+00 7.395E+00 7.280E+00 7.165E+00 7.050E+00 6.935E+00 6.820E+00 6.705E+00 6.590E+00 6.475E+00 6.360E+00 6.245E+00 6.130E+00 6.015E+00 5.900E+00 5.785E+00 5.670E+00 5.555E+00 5.440E+00 5.325E+00 5.210E+00 5.095E+00 4.980E+00 4.865E+00 4.750E+00 4.635E+00 4.520E+00 4.405E+00 4.290E+00 4.175E+00 4.060E+00 3.945E+00 3.830E+00 3.720E+00 3.605E+00 3.490E+00 3.375E+00 3.260E+00 3.145E+00 3.030E+00 2.915E+00 2.800E+00 2.685E+00 2.570E+00 2.455E+00 2.340E+00 2.225E+00 2.110E+00 1.995E+00 1.880E+00 1.765E+00 1.650E+00 1.535E+00 1.420E+00 1.305E+00 1.190E+00 1.075E+00 9.965E+00 9.850E+00 9.735E+00 9.620E+00 9.505E+00 9.390E+00 9.275E+00 9.160E+00 9.045E+00 8.930E+00 8.815E+00 8.700E+00 8.585E+00 8.470E+00 8.355E+00 8.240E+00 8.125E+00 8.010E+00 7.895E+00 7.780E+00 7.665E+00 7.550E+00 7.435E+00 7.320E+00 7.205E+00 7.090E+00 6.975E+00 6.860E+00 6.745E+00 6.630E+00 6.515E+00 6.400E+00 6.285E+00 6.170E+00 6.055E+00 5.940E+00 5.825E+00 5.710E+00 5.595E+00 5.480E+00 5.365E+00 5.250E+00 5.135E+00 5.020E+00 4.905E+00 4.790E+00 4.675E+00 4.560E+00 4.445E+00 4.330E+00 4.215E+00 4.100E+00 3.985E+00 3.870E+00 3.755E+00 3.640E+00 3.525E+00 3.410E+00 3.295E+00 3.180E+00 3.065E+00 2.950E+00 2.835E+00 2.720E+00 2.605E+00 2.490E+00 2.375E+00 2.260E+00 2.145E+00 2.030E+00 1.915E+00 1.800E+00 1.685E+00 1.570E+00 1.455E+00 1.340E+00 1.225E+00 1.110E+00 1.000E+00 9.885E+00 9.770E+00 9.655E+00 9.540E+00 9.425E+00 9.310E+00 9.195E+00 9.080E+00 8.965E+00 8.850E+00 8.735E+00 8.620E+00 8.505E+00 8.390E+00 8.275E+00 8.160E+00 8.045E+00 7.930E+00 7.815E+00 7.700E+00 7.585E+00 7.470E+00 7.355E+00 7.240E+00 7.125E+00 7.010E+00 6.895E+00 6.780E+00 6.665E+00 6.550E+00 6.435E+00 6.320E+00 6.205E+00 6.090E+00 5.

		6.916E+01	6.855E+01	6.815E+01	6.766E+01	6.718E+01	6.671E+01	6.624E+01	6.579E+01	6.535E+01	6.491E+01	6.100E+01	5.776E+01	4.802E+01	4.299E+01	3.990E+01	3.521E+01	3.162E+01	2.594E+01	2.030E+01	1.505E+01
PWR 20000.	1.74	1.259E+01	1.126E+01	1.052E+01	9.680E+00	9.163E+00	8.194E+00	7.111E+00	6.664E+00	1.899E+00	6.278E-01										
		7.430E+03	3.679E+03	2.197E+03	1.492E+03	1.140E+03	9.482E+02	8.388E+02	7.704E+02	7.239E+02	6.915E+02	6.633E+02	6.418E+02	6.237E+02	6.078E+02	5.953E+02	5.810E+02	5.691E+02	5.581E+02	5.477E+02	5.398E+02
		5.285E+02	5.195E+02	5.109E+02	5.027E+02	4.948E+02	4.871E+02	4.796E+02	4.725E+02	4.652E+02	4.594E+02	4.524E+02	4.458E+02	4.394E+02	4.331E+02	4.271E+02	4.211E+02	4.153E+02	4.097E+02	4.041E+02	3.987E+02
		3.934E+02	3.882E+02	3.831E+02	3.781E+02	3.732E+02	3.685E+02	3.638E+02	3.592E+02	3.547E+02	3.512E+02	3.460E+02	3.418E+02	3.377E+02	3.337E+02	3.297E+02	3.259E+02	3.221E+02	3.184E+02	3.148E+02	3.112E+02
		3.077E+02	3.043E+02	3.007E+02	2.976E+02	2.944E+02	2.912E+02	2.881E+02	2.851E+02	2.821E+02	2.792E+02	2.763E+02	2.735E+02	2.708E+02	2.681E+02	2.654E+02	2.628E+02	2.603E+02	2.578E+02	2.553E+02	2.529E+02
		2.505E+02	2.483E+02	2.460E+02	2.438E+02	2.416E+02	2.395E+02	2.374E+02	2.353E+02	2.333E+02	2.314E+02	2.294E+02	2.275E+02	2.257E+02	2.238E+02	2.220E+02	2.203E+02	2.186E+02	2.169E+02	2.152E+02	2.136E+02
		2.125E+02	2.109E+02	2.095E+02	2.078E+02	2.063E+02	2.048E+02	2.034E+02	2.020E+02	2.006E+02	1.992E+02	1.980E+02	1.967E+02	1.954E+02	1.942E+02	1.929E+02	1.917E+02	1.905E+02	1.894E+02	1.882E+02	1.871E+02
		1.860E+02	1.849E+02	1.838E+02	1.828E+02	1.818E+02	1.808E+02	1.798E+02	1.788E+02	1.778E+02	1.769E+02	1.683E+02	1.610E+02	1.370E+02	1.225E+02	1.125E+02	9.680E+01	8.488E+01	6.640E+01	4.838E+01	3.189E+01
PWR 20000.	2.44	2.429E+01	2.045E+01	1.843E+01	1.640E+01	1.529E+01	1.338E+01	1.132E+01	6.909E+00	2.545E+00	8.504E-01										
		6.974E+03	3.421E+03	2.045E+03	1.396E+03	1.077E+03	9.033E+02	8.047E+02	7.428E+02	7.004E+02	6.707E+02	6.446E+02	6.242E+02	6.067E+02	5.913E+02	5.786E+02	5.649E+02	5.530E+02	5.420E+02	5.315E+02	5.225E+02
		5.120E+02	5.029E+02	4.941E+02	4.857E+02	4.775E+02	4.696E+02	4.619E+02	4.544E+02	4.471E+02	4.408E+02	4.333E+02	4.265E+02	4.199E+02	4.135E+02	4.072E+02	4.011E+02	3.951E+02	3.892E+02	3.835E+02	3.779E+02
		3.724E+02	3.670E+02	3.618E+02	3.566E+02	3.516E+02	3.467E+02	3.419E+02	3.371E+02	3.325E+02	3.288E+02	3.239E+02	3.196E+02	3.153E+02	3.112E+02	3.071E+02	3.031E+02	2.992E+02	2.954E+02	2.917E+02	2.880E+02
		2.844E+02	2.809E+02	2.774E+02	2.741E+02	2.708E+02	2.675E+02	2.643E+02	2.612E+02	2.582E+02	2.552E+02	2.523E+02	2.494E+02	2.466E+02	2.438E+02	2.411E+02	2.385E+02	2.359E+02	2.334E+02	2.309E+02	2.285E+02
		2.261E+02	2.237E+02	2.214E+02	2.192E+02	2.170E+02	2.148E+02	2.127E+02	2.106E+02	2.086E+02	2.066E+02	2.047E+02	2.028E+02	2.009E+02	1.991E+02	1.973E+02	1.955E+02	1.938E+02	1.921E+02	1.904E+02	1.894E+02
		1.875E+02	1.859E+02	1.843E+02	1.828E+02	1.814E+02	1.799E+02	1.785E+02	1.771E+02	1.757E+02	1.744E+02	1.731E+02	1.718E+02	1.705E+02	1.692E+02	1.681E+02	1.669E+02	1.657E+02	1.646E+02	1.635E+02	1.623E+02
		1.613E+02	1.602E+02	1.592E+02	1.581E+02	1.571E+02	1.561E+02	1.552E+02	1.542E+02	1.533E+02	1.524E+02	1.440E+02	1.370E+02	1.148E+02	1.021E+02	9.376E+01	8.085E+01	7.117E+01	5.615E+01	4.148E+01	2.804E+01
PWR 20000.	3.14	2.180E+01	1.861E+01	1.692E+01	1.516E+01	1.419E+01	1.245E+01	1.068E+01	6.536E+00	2.452E+00	8.369E-01										
		6.634E+03	3.223E+03	1.923E+03	1.324E+03	1.030E+03	8.700E+02	7.798E+02	7.229E+02	6.836E+02	6.554E+02	6.308E+02	6.111E+02	5.940E+02	5.788E+02	5.658E+02	5.522E+02	5.403E+02	5.290E+02	5.184E+02	5.088E+02
		4.982E+02	4.889E+02	4.798E+02	4.711E+02	4.627E+02	4.544E+02	4.465E+02	4.387E+02	4.311E+02	4.243E+02	4.167E+02	4.097E+02	4.028E+02	3.961E+02	3.896E+02	3.833E+02	3.770E+02	3.709E+02	3.650E+02	3.592E+02
		3.535E+02	3.479E+02	3.423E+02	3.372E+02	3.320E+02	3.269E+02	3.219E+02	3.170E+02	3.122E+02	3.082E+02	3.031E+02	2.985E+02	2.943E+02	2.900E+02	2.858E+02	2.817E+02	2.777E+02	2.738E+02	2.699E+02	2.662E+02
		2.625E+02	2.589E+02	2.554E+02	2.519E+02	2.485E+02	2.452E+02	2.420E+02	2.388E+02	2.357E+02	2.326E+02	2.295E+02	2.267E+02	2.239E+02	2.211E+02	2.184E+02	2.157E+02	2.130E+02	2.105E+02	2.079E+02	2.055E+02
		2.031E+02	2.007E+02	1.984E+02	1.961E+02	1.939E+02	1.917E+02	1.896E+02	1.875E+02	1.855E+02	1.835E+02	1.815E+02	1.796E+02	1.777E+02	1.759E+02	1.740E+02	1.723E+02	1.706E+02	1.689E+02	1.672E+02	1.661E+02
		1.642E+02	1.626E+02	1.611E+02	1.596E+02	1.581E+02	1.567E+02	1.553E+02	1.539E+02	1.525E+02	1.512E+02	1.499E+02	1.486E+02	1.474E+02	1.462E+02	1.450E+02	1.438E+02	1.427E+02	1.415E+02	1.404E+02	1.394E+02
		1.389E+02	1.372E+02	1.352E+02	1.325E+02	1.325E+02	1.332E+02	1.314E+02	1.314E+02	1.305E+02	1.296E+02	1.216E+02	1.149E+02	9.428E+01	8.333E+01	7.645E+01	6.611E+01	5.849E+01	5.326E+01	4.333E+01	
PWR 30000.	2.41	1.680E+01	1.680E+01	1.541E+01	1.398E+01	1.306E+01	1.150E+01	9.817E+00	6.148E+00	2.358E+00	8.302E-01										
		9.270E+03	4.848E+03	3.044E+03	2.164E+03	1.709E+03	1.449E+03	1.294E+03	1.192E+03	1.120E+03	1.068E+03	1.022E+03	9.867E+02	9.566E+02	9.302E+02	9.094E+02	8.847E+02	8.648E+02	8.463E+02	8.289E+02	8.148E+02
		7.974E+02	7.822E+02	7.677E+02	7.538E+02	7.403E+02	7.273E+02	7.146E+02	7.024E+02	6.905E+02	6.804E+02	6.681E+02	6.570E+02	6.462E+02	6.358E+02	6.257E+02	6.158E+02	6.062E+02	5.968E+02	5.876E+02	5.786E+02
		5.699E+02	5.613E+02	5.530E+02	5.448E+02	5.368E+02	5.290E+02	5.214E+02	5.139E+02	5.066E+02	5.003E+02	4.925E+02	4.855E+02	4.789E+02	4.724E+02	4.660E+02	4.598E+02	4.537E+02	4.478E+02	4.419E+02	4.362E+02
		4.306E+02	4.252E+02	4.198E+02	4.146E+02	4.094E+02	4.044E+02	3.995E+02	3.946E+02	3.897E+02	3.853E+02	3.807E+02	3.763E+02	3.720E+02	3.677E+02	3.635E+02	3.594E+02	3.554E+02	3.515E+02	3.477E+02	3.439E+02
		3.402E+02	3.366E+02	3.331E+02	3.296E+02	3.262E+02	3.229E+02	3.196E+02	3.164E+02	3.133E+02	3.102E+02	3.072E+02	3.043E+02	3.014E+02	2.986E+02	2.958E+02	2.931E+02	2.904E+02	2.878E+02	2.852E+02	2.838E+02
		2.808E+02	2.783E+02	2.759E+02	2.735E+02	2.712E+02	2.690E+02	2.668E+02	2.647E+02	2.626E+02	2.605E+02	2.585E+02	2.565E+02	2.545E+02	2.526E+02	2.507E+02	2.489E+02	2.471E+02	2.453E+02	2.435E+02	2.418E+02
		2.401E+02	2.385E+02	2.369E+02	2.353E+02	2.337E+02	2.322E+02	2.306E+02	2.292E+02	2.277E+02	2.263E+02	2.133E+02	2.023E+02	1.670E+02	1.465E+02	1.331E+02	1.129E+02	9.863E+01	7.710E+01	5.656E+01	3.784E+01
		2.917E+01	2.472E+01	2.235E+01	1.987E+01	1.851E+01	1.605E+01	1.347E+01	7.995E+00	2.898E+00	1.036E+00										
PWR 30000.	3.11	8.728E+03	4.536E+03	2.850E+03	2.033E+03	1.615E+03	1.377E+03	1.235E+03	1.142E+03	1.076E+03	1.028E+03	9.899E+02	9.528E+02	9.244E+02	8.994E+02	8.789E+02	8.563E+02	8.371E+02	8.192E+02	8.023E+02	7.881E+02
		7.709E+02	7.562E+02	7.420E+02	7.284E+02	7.152E+02	7.025E+02	6.901E+02	6.780E+02	6.663E+02	6.565E+02	6.442E+02	6.332E+02	6.227E+02	6.124E+02	6.024E+02	5.925E+02	5.830E+02	5.737E+02	5.646E+02	5.557E+02
		5.470E+02	5.385E+02	5.302E+02	5.221E+02	5.142E+02	5.064E+02	4.988E+02	4.914E+02	4.841E+02	4.785E+02	4.708E+02	4.639E+02	4.573E+02	4.508E+02	4.444E+02	4.382E+02	4.321E+02	4.261E+02	4.203E+02	4.146E+02
		4.090E+02	4.035E+02	3.982E+02	3.929E+02	3.878E+02	3.827E+02	3.778E+02	3.730E+02	3.683E+02	3.636E+02	3.591E+02	3.547E+02	3.503E+02	3.461E+02	3.419E+02	3.378E+02	3.338E+02	3.299E+02	3.261E+02	3.223E+02
		3.187E+02	3.151E+02	3.115E+02	3.081E+02	3.047E+02	3.014E+02	2.981E+02	2.949E+02	2.918E+02	2.887E+02	2.857E+02	2.828E+02	2.799E+02	2.771E+02	2.744E+02	2.716E+02	2.690E+02	2.664E+02	2.638E+02	2.624E+02
		2.595E+02	2.570E+02	2.546E+02	2.523E+02	2.500E+02	2.478E+02	2.456E+02	2.435E+02	2.414E+02	2.394E+02	2.373E+02	2.354E+02	2.334E+02	2.315E+02	2.297E+02	2.279E+02	2.261E+02	2.243E+02	2.226E+02	2.209E+02
		2.198E+02	2.176E+02	2.160E+02	2.145E+02	2.129E+02	2.114E+02	2.099E+02	2.085E+02	2.070E+02	2.056E+02	1.929E+02	1.822E+02	1.485E+02	1.238E+02	1.179E+02	1.002E+02	8.775E+01	6.888E+01	5.095E+01	3.455E+01
		2.692E+01	2.299E+01	2.088E+01	1.865E+01	1.739E+01	1.514E+01	1.272E+01	7.631E+00	2.805E+00	1.018E+00										
PWR 30000.	3.81	8.281E+03	4.277E+03	2.690E+03	1.928E+03	1.540E+03	1.320E+03	1.190E+03	1.104E+03	1.033E+03	9.992E+02	9.598E+02	9.284E+02	9.012E+02	8.770E+02	8.567E+02	8.350E+02	8.162E+02	7.985E+02	7.818E+02	7.674E+02
		7.507E+02	7.360E+02	7.219E+02	7.083E+02	6.951E+02	6.823E+02	6.699E+02	6.578E+02	6.461E+02	6.399E+02										

		7.738E+02	7.618E+02	7.500E+02	7.385E+02	7.272E+02	7.163E+02	7.055E+02	6.950E+02	6.847E+02	6.746E+02	6.650E+02	6.552E+02	6.458E+02	6.366E+02	6.277E+02	6.190E+02	6.104E+02	6.021E+02	5.939E+02	5.858E+02
		5.780E+02	5.705E+02	5.628E+02	5.554E+02	5.482E+02	5.412E+02	5.343E+02	5.275E+02	5.209E+02	5.144E+02	5.080E+02	5.018E+02	4.957E+02	4.897E+02	4.839E+02	4.782E+02	4.725E+02	4.671E+02	4.617E+02	4.564E+02
		4.512E+02	4.462E+02	4.412E+02	4.364E+02	4.316E+02	4.269E+02	4.224E+02	4.179E+02	4.135E+02	4.092E+02	4.050E+02	4.008E+02	3.968E+02	3.928E+02	3.889E+02	3.851E+02	3.814E+02	3.777E+02	3.741E+02	3.702E+02
		3.680E+02	3.644E+02	3.610E+02	3.577E+02	3.545E+02	3.514E+02	3.483E+02	3.453E+02	3.423E+02	3.394E+02	3.366E+02	3.338E+02	3.310E+02	3.283E+02	3.257E+02	3.231E+02	3.205E+02	3.180E+02	3.156E+02	3.131E+02
		3.108E+02	3.084E+02	3.062E+02	3.040E+02	3.017E+02	2.995E+02	2.974E+02	2.953E+02	2.933E+02	2.913E+02	2.893E+02	2.874E+02	2.855E+02	2.836E+02	2.817E+02	2.798E+02	2.779E+02	2.760E+02	2.741E+02	2.722E+02
		2.703E+02	2.684E+02	2.665E+02	2.646E+02	2.627E+02	2.608E+02	2.589E+02	2.570E+02	2.551E+02	2.532E+02	2.513E+02	2.494E+02	2.475E+02	2.456E+02	2.437E+02	2.418E+02	2.399E+02	2.380E+02	2.361E+02	2.342E+02
		2.323E+02	2.304E+02	2.285E+02	2.266E+02	2.247E+02	2.228E+02	2.209E+02	2.190E+02	2.171E+02	2.152E+02	2.133E+02	2.114E+02	2.095E+02	2.076E+02	2.057E+02	2.038E+02	2.019E+02	2.000E+02	1.981E+02	1.962E+02
		1.943E+02	1.924E+02	1.905E+02	1.886E+02	1.867E+02	1.848E+02	1.829E+02	1.810E+02	1.791E+02	1.772E+02	1.753E+02	1.734E+02	1.715E+02	1.696E+02	1.677E+02	1.658E+02	1.639E+02	1.620E+02	1.601E+02	1.582E+02
		1.563E+02	1.544E+02	1.525E+02	1.506E+02	1.487E+02	1.468E+02	1.449E+02	1.430E+02	1.411E+02	1.392E+02	1.373E+02	1.354E+02	1.335E+02	1.316E+02	1.297E+02	1.278E+02	1.259E+02	1.240E+02	1.221E+02	1.202E+02
		1.183E+02	1.164E+02	1.145E+02	1.126E+02	1.107E+02	1.088E+02	1.069E+02	1.050E+02	1.031E+02	1.012E+02	9.93E+01	9.74E+01	9.55E+01	9.36E+01	9.17E+01	8.98E+01	8.79E+01	8.60E+01	8.41E+01	8.22E+01
		8.03E+01	7.84E+01	7.65E+01	7.46E+01	7.27E+01	7.08E+01	6.89E+01	6.70E+01	6.51E+01	6.32E+01	6.13E+01	5.94E+01	5.75E+01	5.56E+01	5.37E+01	5.18E+01	4.99E+01	4.80E+01	4.61E+01	4.42E+01
		4.23E+01	4.04E+01	3.85E+01	3.66E+01	3.47E+01	3.28E+01	3.09E+01	2.90E+01	2.71E+01	2.52E+01	2.33E+01	2.14E+01	1.95E+01	1.76E+01	1.57E+01	1.38E+01	1.19E+01	1.00E+01	8.1E+00	6.2E+00
		4.3E+00	3.1E+00	2.0E+00	1.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
PWR 40000.	4.42	1.005E+04	5.462E+03	3.580E+03	2.647E+03	2.156E+03	1.866E+03	1.685E+03	1.565E+03	1.477E+03	1.412E+03	1.354E+03	1.308E+03	1.269E+03	1.234E+03	1.206E+03	1.174E+03	1.147E+03	1.123E+03	1.099E+03	1.081E+03
		1.057E+03	1.036E+03	1.016E+03	9.972E+02	9.789E+02	9.610E+02	9.437E+02	9.269E+02	9.105E+02	8.949E+02	8.797E+02	8.644E+02	8.496E+02	8.353E+02	8.213E+02	8.076E+02	7.943E+02	7.813E+02	7.686E+02	7.561E+02
		7.440E+02	7.322E+02	7.206E+02	7.092E+02	6.982E+02	6.874E+02	6.768E+02	6.664E+02	6.563E+02	6.465E+02	6.370E+02	6.282E+02	6.189E+02	6.098E+02	6.010E+02	5.923E+02	5.839E+02	5.756E+02	5.675E+02	5.595E+02
		5.517E+02	5.441E+02	5.367E+02	5.294E+02	5.223E+02	5.153E+02	5.084E+02	5.017E+02	4.952E+02	4.887E+02	4.825E+02	4.763E+02	4.703E+02	4.644E+02	4.586E+02	4.529E+02	4.474E+02	4.419E+02	4.366E+02	4.314E+02
		4.263E+02	4.213E+02	4.164E+02	4.116E+02	4.069E+02	4.023E+02	3.977E+02	3.933E+02	3.890E+02	3.847E+02	3.806E+02	3.765E+02	3.725E+02	3.686E+02	3.647E+02	3.610E+02	3.573E+02	3.537E+02	3.501E+02	3.479E+02
		3.440E+02	3.405E+02	3.371E+02	3.339E+02	3.308E+02	3.277E+02	3.247E+02	3.217E+02	3.188E+02	3.159E+02	3.131E+02	3.104E+02	3.077E+02	3.050E+02	3.024E+02	2.999E+02	2.974E+02	2.949E+02	2.925E+02	2.902E+02
		2.879E+02	2.856E+02	2.834E+02	2.812E+02	2.790E+02	2.769E+02	2.748E+02	2.728E+02	2.708E+02	2.688E+02	2.668E+02	2.648E+02	2.628E+02	2.608E+02	2.588E+02	2.568E+02	2.548E+02	2.528E+02	2.508E+02	2.488E+02
		2.468E+02	2.448E+02	2.428E+02	2.408E+02	2.388E+02	2.368E+02	2.348E+02	2.328E+02	2.308E+02	2.288E+02	2.268E+02	2.248E+02	2.228E+02	2.208E+02	2.188E+02	2.168E+02	2.148E+02	2.128E+02	2.108E+02	2.088E+02
		2.068E+02	2.048E+02	2.028E+02	2.008E+02	1.988E+02	1.968E+02	1.948E+02	1.928E+02	1.908E+02	1.888E+02	1.868E+02	1.848E+02	1.828E+02	1.808E+02	1.788E+02	1.768E+02	1.748E+02	1.728E+02	1.708E+02	1.688E+02
		1.668E+02	1.648E+02	1.628E+02	1.608E+02	1.588E+02	1.568E+02	1.548E+02	1.528E+02	1.508E+02	1.488E+02	1.468E+02	1.448E+02	1.428E+02	1.408E+02	1.388E+02	1.368E+02	1.348E+02	1.328E+02	1.308E+02	1.288E+02
		1.268E+02	1.248E+02	1.228E+02	1.208E+02	1.188E+02	1.168E+02	1.148E+02	1.128E+02	1.108E+02	1.088E+02	1.068E+02	1.048E+02	1.028E+02	1.008E+02	9.88E+01	9.68E+01	9.48E+01	9.28E+01	9.08E+01	8.88E+01
		8.68E+01	8.48E+01	8.28E+01	8.08E+01	7.88E+01	7.68E+01	7.48E+01	7.28E+01	7.08E+01	6.88E+01	6.68E+01	6.48E+01	6.28E+01	6.08E+01	5.88E+01	5.68E+01	5.48E+01	5.28E+01	5.08E+01	4.88E+01
		4.68E+01	4.48E+01	4.28E+01	4.08E+01	3.88E+01	3.68E+01	3.48E+01	3.28E+01	3.08E+01	2.88E+01	2.68E+01	2.48E+01	2.28E+01	2.08E+01	1.88E+01	1.68E+01	1.48E+01	1.28E+01	1.08E+01	8.8E+00
		6.8E+00	5.6E+00	4.4E+00	3.2E+00	2.0E+00	0.8E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
PWR 50000.	3.56	1.299E+04	7.424E+03	5.032E+03	3.803E+03	3.130E+03	2.744E+03	2.450E+03	2.266E+03	2.131E+03	2.032E+03	1.944E+03	1.873E+03	1.812E+03	1.759E+03	1.714E+03	1.664E+03	1.624E+03	1.586E+03	1.551E+03	1.522E+03
		1.485E+03	1.455E+03	1.425E+03	1.397E+03	1.369E+03	1.343E+03	1.317E+03	1.292E+03	1.268E+03	1.244E+03	1.223E+03	1.200E+03	1.179E+03	1.158E+03	1.137E+03	1.118E+03	1.098E+03	1.080E+03	1.061E+03	1.044E+03
		1.025E+03	1.009E+03	9.927E+02	9.766E+02	9.609E+02	9.455E+02	9.305E+02	9.160E+02	9.017E+02	8.874E+02	8.744E+02	8.610E+02	8.480E+02	8.354E+02	8.230E+02	8.110E+02	7.998E+02	7.878E+02	7.766E+02	7.656E+02
		7.549E+02	7.444E+02	7.342E+02	7.241E+02	7.143E+02	7.047E+02	6.954E+02	6.862E+02	6.772E+02	6.684E+02	6.598E+02	6.514E+02	6.432E+02	6.352E+02	6.273E+02	6.196E+02	6.120E+02	6.047E+02	5.974E+02	5.904E+02
		5.834E+02	5.767E+02	5.700E+02	5.635E+02	5.571E+02	5.509E+02	5.448E+02	5.388E+02	5.329E+02	5.272E+02	5.216E+02	5.161E+02	5.107E+02	5.054E+02	5.002E+02	4.951E+02	4.901E+02	4.852E+02	4.805E+02	4.778E+02
		4.722E+02	4.675E+02	4.630E+02	4.586E+02	4.544E+02	4.502E+02	4.461E+02	4.421E+02	4.382E+02	4.343E+02	4.305E+02	4.268E+02	4.231E+02	4.196E+02	4.161E+02	4.126E+02	4.092E+02	4.059E+02	4.026E+02	3.994E+02
		3.963E+02	3.932E+02	3.902E+02	3.872E+02	3.843E+02	3.814E+02	3.785E+02	3.756E+02	3.730E+02	3.704E+02	3.679E+02	3.654E+02	3.629E+02	3.604E+02	3.579E+02	3.554E+02	3.529E+02	3.504E+02	3.479E+02	3.454E+02
		3.429E+02	3.404E+02	3.379E+02	3.354E+02	3.329E+02	3.304E+02	3.279E+02	3.254E+02	3.229E+02	3.204E+02	3.179E+02	3.154E+02	3.129E+02	3.104E+02	3.079E+02	3.054E+02	3.029E+02	3.004E+02	2.979E+02	2.954E+02
		2.929E+02	2.904E+02	2.879E+02	2.854E+02	2.829E+02	2.804E+02	2.779E+02	2.754E+02	2.729E+02	2.704E+02	2.679E+02	2.654E+02	2.629E+02	2.604E+02	2.579E+02	2.554E+02	2.529E+02	2.504E+02	2.479E+02	2.454E+02
		2.429E+02	2.404E+02	2.379E+02	2.354E+02	2.329E+02	2.304E+02	2.279E+02	2.254E+02	2.229E+02	2.204E+02	2.179E+02	2.154E+02	2.129E+02	2.104E+02	2.079E+02	2.054E+02	2.029E+02	2.004E+02	1.979E+02	1.954E+02
		1.929E+02	1.904E+02	1.879E+02	1.854E+02	1.829E+02	1.804E+02	1.779E+02	1.754E+02	1.729E+02	1.704E+02	1.679E+02	1.654E+02	1.629E+02	1.604E+02	1.579E+02	1.554E+02	1.529E+02	1.504E+02	1.479E+02	1.454E+02
		1.429E+02	1.404E+02	1.379E+02	1.354E+02	1.329E+02	1.304E+02	1.279E+02	1.254E+02	1.229E+02	1.204E+02	1.179E+02	1.154E+02	1.129E+02	1.104E+02	1.079E+02	1.054E+02	1.029E+02	1.004E+02	9.79E+01	9.59E+01
		9.39E+01	9.19E+01	8.99E+0																	

4.257E+02 4.220E+02 4.183E+02 4.148E+02 4.112E+02 4.078E+02 4.044E+02 4.010E+02 3.977E+02 3.945E+02 3.652E+02 3.408E+02 2.605E+02 2.157E+02 1.884E+02 1.524E+02 1.305E+02 1.019E+02 7.720E+01 5.509E+01
4.473E+01 3.908E+01 3.589E+01 3.220E+01 2.999E+01 2.575E+01 2.135E+01 1.220E+01 4.378E+00 1.831E+00

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/COM, ** Output File Name: snf1048.dat **
/COM, ** Execution Date: 02/24/95 **
/COM, ** Start Age (years): 10.0 **
/COM, ** Decay Period (years): 10000 **
/COM, ** Enrichment (percent): 4.20 **
/COM, ** Burnup (Mwd/MTU): 48086 **
/COM, ** Assembly Type: PWR **
/COM, ** SNF U Mass (MTU/assy): 0.464 **
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/COM, ** ASSY(#,1) is the SNF assembly heat in Watts. **
/COM, ** ASSY(#,0) is the time post emplacement in years. **
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ASSY( 1,1)= 850.01, 849.62, 849.23, 848.85, 848.46, 848.08,
ASSY( 7,1)= 847.69, 847.31, 846.93, 846.54, 846.16, 844.26,
ASSY(13,1)= 842.37, 840.50, 838.63, 836.79, 834.95, 833.13,
ASSY(19,1)= 831.32, 829.52, 827.74, 825.96, 824.20, 822.45,
ASSY(25,1)= 820.72, 818.99, 817.28, 815.57, 813.88, 799.01,
ASSY(31,1)= 785.03, 772.20, 760.06, 749.04, 738.57, 729.55,
ASSY(37,1)= 720.95, 710.27, 700.07, 691.80, 683.86, 676.03,
ASSY(43,1)= 668.50, 661.13, 654.04, 648.19, 642.55, 580.18,
ASSY(49,1)= 529.86, 484.52, 445.36, 410.51, 380.70, 352.19,
ASSY(55,1)= 327.78, 305.88, 286.22, 268.57, 252.65, 238.31,
ASSY(61,1)= 225.35, 213.66, 203.85, 193.75, 185.04, 130.66,
ASSY(67,1)= 105.07, 90.10, 80.32, 72.66, 66.61, 61.74,
ASSY(73,1)= 57.58, 53.71, 50.41, 47.54, 44.98, 42.50,
ASSY(79,1)= 40.31, 38.35, 36.59, 35.00, 33.52, 23.16,
ASSY(85,1)= 18.32, 15.77, 14.37, 13.53, 12.84, 12.37,
ASSY(91,1)= 11.96, 11.47, 11.04, 10.66, 10.32, 9.97,
ASSY(97,1)= 9.65, 9.36, 9.09, 8.84, 8.61,
ASSY( 1,0)= 0.000001, 0.01, 0.02, 0.03, 0.04, 0.05,
ASSY( 7,0)= 0.06, 0.07, 0.08, 0.09, 0.10, 0.15,
ASSY(13,0)= 0.20, 0.25, 0.30, 0.35, 0.40, 0.45,
ASSY(19,0)= 0.50, 0.55, 0.60, 0.65, 0.70, 0.75,
ASSY(25,0)= 0.80, 0.85, 0.90, 0.95, 1.00, 1.50,
ASSY(31,0)= 2.00, 2.50, 3.00, 3.50, 4.00, 4.50,
ASSY(37,0)= 5.00, 5.50, 6.00, 6.50, 7.00, 7.50,
ASSY(43,0)= 8.00, 8.50, 9.00, 9.50, 10.00, 15.00,
ASSY(49,0)= 20.00, 25.00, 30.00, 35.00, 40.00, 45.00,
ASSY(55,0)= 50.00, 55.00, 60.00, 65.00, 70.00, 75.00,
ASSY(61,0)= 80.00, 85.00, 90.00, 95.00, 100.00, 150.00,
ASSY(67,0)= 200.00, 250.00, 300.00, 350.00, 400.00, 450.00,
ASSY(73,0)= 500.00, 550.00, 600.00, 650.00, 700.00, 750.00,
ASSY(79,0)= 800.00, 850.00, 900.00, 950.00, 1000.00, 1500.00,
ASSY(85,0)= 2000.00, 2500.00, 3000.00, 3500.00, 4000.00, 4500.00,
ASSY(91,0)= 5000.00, 5500.00, 6000.00, 6500.00, 7000.00, 7500.00,
ASSY(97,0)= 8000.00, 8500.00, 9000.00, 9500.00, 10000.00,
ASSY( 0,1)=1.0
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/COM, **      Compiled by R. Bahney III on 1-30-95          **
/COM, *****
/COM,
/COM, NUMBER MATERIAL DESCRIPTION
/COM, 1 Stainless Steel 316 Basket Structural Support
/COM, 2 Incaloy 825 Inner Container (resistant)
/COM, 3 A516 Mild Steel Outer Container (allowance)
/COM, 4 UO2 Pellet SNF Uranium Oxide Pellet
/COM, 5 Zircaloy 4 SNF Cladding
/COM, 6 Oxidation Layer Stably Oxidized Zircaloy Surface
/COM, 7 Helium Canister Fill Gas
/COM, 8 Air Alternate Fill Gas
/COM, 9 Nitrogen Alternate Fill Gas
/COM, 10 Argon Alternate Fill Gas
/COM, 11 Aluminum 6063 Thermal Conductor
/COM, 12 Copper Alternate Thermal Conductor
/COM, 13 Aluminum-Boron Aluminum Boron Criticality Matl
/COM,
/COM, *****
/COM, **      Density: DENS (kg/m^3) **
/COM, **      Emissivity EMIS **
/COM, **      Conductivity: KXX (W/m/K) **
/COM, **      Specific Heat: C (J/kg/K) **
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/COM,
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MPDATA,DENS, 1, 1, .80000E+04,
MPDATA,DENS, 2, 1, .81379E+04,
MPDATA,DENS, 3, 1, .81310E+04,
MPDATA,DENS, 4, 1, .10970E+05,
MPDATA,DENS, 5, 1, .65000E+04,
MPDATA,DENS, 6, 1, .65000E+04,
MPDATA,DENS, 11, 1, .26900E+04,
MPDATA,DENS, 12, 1, .89330E+04,
MPDATA,DENS, 13, 1, .26930E+04,
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MPDATA,EMIS, 1, 1, .60000E+00,
MPDATA,EMIS, 2, 1, .80000E+00,
MPDATA,EMIS, 3, 1, .80000E+00,
MPDATA,EMIS, 4, 1, .79000E+00,
MPDATA,EMIS, 5, 1, .80600E+00,
MPDATA,EMIS, 6, 1, .80600E+00,
MPDATA,EMIS, 11, 1, .07000E+00,
MPDATA,EMIS, 12, 1, .50000E+00,
MPDATA,EMIS, 13, 1, .07000E+00,
/COM,
/COM, Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15
MPDATA, C, 4, 1, .24700E+03,
MPDATA, C, 5, 1, .33000E+03,
MPDATA, C, 6, 1, .33000E+03,
MPDATA, C, 7, 1, .51930E+04,
MPDATA, C, 11, 1, .90000E+03,
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MPTEMP, 1, 21.11, 37.78, 65.56, 93.33, 121.11, 148.89,
MPTEMP, 7, 176.67, 204.44, 232.22, 260.00, 287.78, 315.56,
MPTEMP, 13, 343.33, 371.11, 398.89, 426.67, 454.44, 482.22,
MPTEMP, 19, 510.00, 537.78, 565.56, 593.33, 621.11, 648.89,
MPTEMP, 25, 676.67, 704.44, 732.22, 760.00, 787.78, 815.56,
MPDATA, KXX, 1, 1, 13.33, 13.67, 14.19, 14.54, 15.06, 15.58,
MPDATA, KXX, 1, 7, 15.92, 16.44, 16.96, 17.31, 17.83, 18.17,
MPDATA, KXX, 1, 13, 18.52, 19.04, 19.38, 19.90, 20.25, 20.77,

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MPDATA, KXX, 1, 19, 21.11, 21.46, 21.98, 22.33, 22.67, 23.02,
MPDATA, KXX, 1, 25, 23.54, 23.88, 24.23, 24.58, 24.92, 25.27,
MPDATA, C, 1, 1, 481.68, 486.92, 498.09, 499.38, 509.98, 520.29,
MPDATA, C, 1, 7, 521.07, 527.38, 536.92, 537.34, 543.02, 543.31,
MPDATA, C, 1, 13, 546.91, 552.14, 552.26, 557.22, 557.25, 565.11,
MPDATA, C, 1, 19, 565.01, 564.91, 572.35, 572.14, 574.92, 574.68,
MPDATA, C, 1, 25, 581.64, 581.30, 583.86, 586.36, 585.96, 588.39,
MPDATA, KXX, 3, 1, 40.84, 41.36, 41.88, 42.23, 42.23, 42.23,
MPDATA, KXX, 3, 7, 42.06, 41.88, 41.36, 41.02, 40.50, 39.98,
MPDATA, KXX, 3, 13, 39.29, 38.77, 38.08, 37.56, 36.69, 36.17,
MPDATA, KXX, 3, 19, 35.48, 34.61, 33.92, 33.23, 32.36, 31.50,
MPDATA, KXX, 3, 25, 30.29, 28.90, 27.35, 26.48, 26.13, 26.13,
MPDATA, C, 3, 1, 428.72, 444.95, 460.94, 476.87, 486.08, 495.66,
MPDATA, C, 3, 7, 506.09, 517.07, 525.64, 536.99, 543.63, 550.62,
MPDATA, C, 3, 13, 562.21, 577.32, 589.10, 600.57, 611.35, 629.09,
MPDATA, C, 3, 19, 645.32, 665.12, 682.07, 694.52, 724.07, 761.95,
MPDATA, C, 3, 25, 806.31, 888.60, 1095.04, 1638.78, 808.68, 736.90,
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/COM,
Define K for material 2
MPTEMP
MPTEMP, 1, 93.33, 121.11, 148.89, 176.67, 204.44, 232.22,
MPTEMP, 7, 260.00, 287.78, 315.56, 343.33, 371.11, 398.89,
MPTEMP, 13, 426.67, 454.44, 482.22, 510.00, 537.78, 565.56,
MPTEMP, 19, 593.33, 621.11, 648.89, 676.67, 704.44, 732.22,
MPTEMP, 25, 760.00, 787.78, 815.56,
MPDATA, KXX, 2, 1, 12.29, 12.63, 13.15, 13.67, 14.02, 14.54,
MPDATA, KXX, 2, 7, 14.88, 15.40, 15.75, 16.10, 16.61, 16.96,
MPDATA, KXX, 2, 13, 17.31, 17.65, 18.00, 18.52, 18.86, 19.21,
MPDATA, KXX, 2, 19, 19.73, 20.08, 20.42, 20.94, 21.46, 21.98,
MPDATA, KXX, 2, 25, 22.33, 23.02, 23.54,
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/COM,
Define C for material 2
MPTEMP
MPTEMP, 1, 93.33, 121.11, 148.89, 176.67, 204.44, 232.22,
MPTEMP, 7, 260.00, 287.78, 315.56, 343.33, 371.11, 398.89,
MPTEMP, 13, 426.67, 454.44, 482.22, 510.00, 537.78,
MPDATA, C, 2, 1, 460.69, 477.42, 501.02, 504.65, 498.12, 520.45,
MPDATA, C, 2, 7, 536.88, 559.85, 576.83, 576.21, 581.68, 598.20,
MPDATA, C, 2, 13, 619.58, 636.76, 654.20, 678.25, 696.29,
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/COM,
Define K for materials 4, 5, 6
MPTEMP
MPTEMP, 1, 0.0, 10.0, 20.0, 30.0, 40.0, 50.0,
MPTEMP, 7, 60.0, 70.0, 80.0, 90.0, 100.0, 110.0,
MPTEMP, 13, 120.0, 130.0, 140.0, 150.0, 160.0, 170.0,
MPTEMP, 19, 180.0, 190.0, 200.0, 210.0, 220.0, 230.0,
MPTEMP, 25, 240.0, 250.0, 260.0, 270.0, 280.0, 290.0,
MPTEMP, 31, 300.0, 310.0, 320.0, 330.0, 340.0, 350.0,
MPTEMP, 37, 360.0, 370.0, 380.0, 390.0, 400.0, 410.0,
MPTEMP, 43, 420.0, 430.0, 440.0, 450.0, 460.0, 470.0,
MPTEMP, 48, 480.0, 490.0, 500.0,
MPDATA, KXX, 4, 1, 8.72, 8.54, 8.36, 8.19, 8.03, 7.87,
MPDATA, KXX, 4, 7, 7.72, 7.58, 7.44, 7.31, 7.18, 7.05,
MPDATA, KXX, 4, 13, 6.93, 6.82, 6.70, 6.60, 6.49, 6.39,
MPDATA, KXX, 4, 19, 6.29, 6.19, 6.10, 6.01, 5.92, 5.84,
MPDATA, KXX, 4, 25, 5.76, 5.68, 5.60, 5.52, 5.45, 5.38,
MPDATA, KXX, 4, 31, 5.31, 5.24, 5.18, 5.11, 5.05, 4.99,
MPDATA, KXX, 4, 37, 4.93, 4.87, 4.81, 4.76, 4.70, 4.65,
MPDATA, KXX, 4, 43, 4.60, 4.55, 4.50, 4.45, 4.40, 4.35,
MPDATA, KXX, 4, 48, 4.31, 4.27, 4.22,
MPDATA, KXX, 5, 1, 12.29, 12.44, 12.58, 12.72, 12.87, 13.01,
MPDATA, KXX, 5, 7, 13.15, 13.28, 13.42, 13.55, 13.69, 13.82,
MPDATA, KXX, 5, 13, 13.95, 14.08, 14.21, 14.34, 14.46, 14.59,
MPDATA, KXX, 5, 19, 14.72, 14.84, 14.96, 15.09, 15.21, 15.33,
MPDATA, KXX, 5, 25, 15.45, 15.57, 15.69, 15.81, 15.93, 16.05,
MPDATA, KXX, 5, 31, 16.17, 16.29, 16.40, 16.52, 16.64, 16.76,
MPDATA, KXX, 5, 37, 16.88, 16.99, 17.11, 17.23, 17.35, 17.46,
MPDATA, KXX, 5, 43, 17.58, 17.70, 17.82, 17.94, 18.06, 18.18,
MPDATA, KXX, 5, 48, 18.30, 18.42, 18.54,
MPDATA, KXX, 6, 1, 1.94, 1.94, 1.94, 1.94, 1.94, 1.94,

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```

MPDATA, KXX, 6, 7, 1.94, 1.95, 1.95, 1.95, 1.95, 1.95,
MPDATA, KXX, 6, 13, 1.95, 1.95, 1.95, 1.96, 1.96, 1.96,
MPDATA, KXX, 6, 19, 1.96, 1.97, 1.97, 1.97, 1.97, 1.98,
MPDATA, KXX, 6, 25, 1.98, 1.98, 1.98, 1.99, 1.99, 1.99,
MPDATA, KXX, 6, 31, 2.00, 2.00, 2.00, 2.01, 2.01, 2.01,
MPDATA, KXX, 6, 37, 2.02, 2.02, 2.02, 2.03, 2.03, 2.03,
MPDATA, KXX, 6, 43, 2.04, 2.04, 2.04, 2.05, 2.05, 2.06,
MPDATA, KXX, 6, 48, 2.06, 2.06, 2.07,

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/COM,

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Define p, K, C for materials 7, 8, 9, -10

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MPTEMP

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MPTEMP, 1, -13.15, 6.85, 26.85, 76.85, 126.85, 176.85,

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MPTEMP, 7, 226.85, 276.85, 326.85, 376.85, 426.85, 476.85,

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```

MPTEMP, 13, 526.85, 626.85, 726.85,

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MPDATA, DENS, 7, 1, 0.1875, 0.1750, 0.1625, 0.1422, 0.1219, 0.1097,

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```

MPDATA, DENS, 7, 7, 0.0975, 0.0906, 0.0836, 0.0767, 0.0697, 0.0662,

```

```

MPDATA, DENS, 7, 13, 0.0627, 0.0558, 0.0488,

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```

MPDATA, KXX, 7, 1, 0.1370, 0.1450, 0.1520, 0.1700, 0.1870, 0.2040,

```

```

MPDATA, KXX, 7, 7, 0.2200, 0.2360, 0.2520, 0.2640, 0.2780, 0.2910,

```

```

MPDATA, KXX, 7, 13, 0.3040, 0.3300, 0.3540,

```

```

MPDATA, DENS, 8, 1, 1.3480, 1.2547, 1.1614, 0.9950, 0.8711, 0.7740,

```

```

MPDATA, DENS, 8, 7, 0.6964, 0.6329, 0.5804, 0.5356, 0.4975, 0.4643,

```

```

MPDATA, DENS, 8, 13, 0.4354, 0.3868, 0.3482,

```

```

MPDATA, KXX, 8, 1, 0.0230, 0.0250, 0.0260, 0.0300, 0.0340, 0.0370,

```

```

MPDATA, KXX, 8, 7, 0.0410, 0.0440, 0.0470, 0.0500, 0.0520, 0.0550,

```

```

MPDATA, KXX, 8, 13, 0.0570, 0.0620, 0.0670,

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```

MPDATA, C, 8, 1, 1006.2, 1006.6, 1007.0, 1009.0, 1014.0, 1021.0,

```

```

MPDATA, C, 8, 7, 1030.0, 1040.0, 1051.0, 1063.0, 1075.0, 1087.0,

```

```

MPDATA, C, 8, 13, 1099.0, 1121.0, 1141.0,

```

```

MPDATA, DENS, 9, 1, 1.3037, 1.2135, 1.1233, 0.9625, 0.8425, 0.7485,

```

```

MPDATA, DENS, 9, 7, 0.6739, 0.6124, 0.5615, 0.5214, 0.4812, 0.4512,

```

```

MPDATA, DENS, 9, 13, 0.4211, 0.3743, 0.3368,

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```

MPDATA, KXX, 9, 1, 0.0230, 0.0240, 0.0260, 0.0290, 0.0330, 0.0360,

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MPDATA, KXX, 9, 7, 0.0390, 0.0420, 0.0450, 0.0470, 0.0500, 0.0520,

```

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MPDATA, KXX, 9, 13, 0.0550, 0.0600, 0.0650,

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MPDATA, C, 9, 1, 1041.8, 1041.4, 1041.0, 1042.0, 1045.0, 1050.0,

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MPDATA, C, 9, 7, 1056.0, 1065.0, 1075.0, 1086.5, 1098.0, 1159.0,

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MPDATA, C, 9, 13, 1220.0, 1146.0, 1167.0,

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```

MPDATA, KXX, 10, 1, 0.0170, 0.0170, 0.0180, 0.0210, 0.0230, 0.0250,

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MPDATA, KXX, 10, 7, 0.0270, 0.0280, 0.0300, 0.0320, 0.0340, 0.0360,

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MPDATA, KXX, 10, 13, 0.0370, 0.0410, 0.0440,

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```

/COM,

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```

Define K and C for material 12

```

```

MPTEMP

```

```

MPTEMP, 1, -73.15, 26.85, 126.85, 326.85, 526.85, 726.85,

```

```

MPDATA, KXX, 12, 1, 413.0, 401.0, 393.0, 379.0, 366.0, 352.0,

```

```

MPDATA, C, 12, 1, 356.0, 385.0, 397.0, 417.0, 433.0, 451.0,

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```

/COM,

```

```

Define K and C for material 13

```

```

MPTEMP

```

```

MPTEMP, 1, 23.00, 50.00, 100.00, 150.00, 200.00,

```

```

MPDATA, KXX, 13, 1, 182.56, 190.17, 199.22, 202.91, 203.72,

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MPDATA, C, 13, 1, 868.00, 903.00, 946.00, 976.00, 998.00,

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```

/COM,

```

```

/COM,

```

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** End of Material Property List **

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/COM,

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/EOF,

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/COM,

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/NOPR

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ANSYS 5.0 A
JUN 10 1995
20:30:32
PLOT NO. 1
ELEMENTS
MAT NUM

ZV =1
DIST=.89595
*XF =.09008

1

21 PWR UCF/Waste Package - 1/2 FEM Model

1

ANSYS 5.0 A
JUN 10 1995
20:30:35
PLOT NO. 1
ELEMENTS
MAT NUM

ZV =1
DIST=.89595
*XF =.09008

1

ANSYS 5.0 A
JUN 10 1995
20:30:38
PLOT NO. 1
ELEMENTS
TYPE NUM

ZV =1
DIST=.89595
*XF =.09008

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*SET,YYY , -1.663000000000
/GOPR

```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****

JOB NAME = ucf21x
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****

WORK SPACE REQUESTED	=	16777216	64.000 MB	COMMAND LINE
MINIMUM WORK SPACE REQUIRED	=	4718592	18.000 MB	
MINIMUM WORK SPACE RECOMMENDED	=	6702496	25.568 MB	
WORK SPACE OBTAINED	=	16777216	64.000 MB	
BYTES PER WORD	=	4		

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 RESULTS SHOULD BE IMMEDIATELY BROUGHT TO OUR ATTENTION.

```

ENTER /SHOW,device TO SET THE GRAPHICS DISPLAY TO device(e.g. X11,4207,ETC.)
ENTER /MENU,ON TO START THE ANSYS MENU SYSTEM
ENTER HELP FOR GENERAL ANSYS HELP INFORMATION
1 /COM, *****
2 /COM, ANSYS REVIS:ON 5.0A 6/10/1995
3 /COM, 2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf21x.inp *
7 /COM, * 21 PWR UCF with High T.L. Disposal Container *
8 /COM, * Helium Fill Gas *
9 /COM, *
10 /COM, * Material Property file: props01.dat *
11 /COM, *
12 /COM, * SNF Conductivity file: pwr15e.parm *
13 /COM, * 15x15 Mark-B4 PWR SNF Assembly *
14 /COM, *
15 /COM, * SNF Heat Loads file: snf1048.dat *
16 /COM, * SNF Type: 10 years old, 48086 Mwd/MTU *
17 /COM, *
18 /COM, * Surface Temp. file: c21x5a.parm *
```

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19 /COM, *      100 MTU/acre (24.7 kgU/m^2) AML (High Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 22.5 m *
22 /COM, *      WP c/c spacing = 16.164 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Read in average effective conductivities from SNF model
33 PARRES,CHANGE,pwr15e,parm,
34 /COM, Read in surface temps. from repository model
35 PARRES,CHANGE,c21x5a,parm,
36 /COM, *****
37 /COM,
38 /COM, Define Required Constants:
39 PI=3.141592654
40 /COM,
41 /COM, Define UCF/waste package parameters
42 /COM, (UCF dimensions converted from inches/cm/mm to meters were requi
43 /COM, MIRAD = inner radius of UCF He Backfill shell (m) (NOT
44 /COM, MWALL = UCF He Backfill shell thickness (m) (NOT
45 /COM, DCRAD = disposal container outer radius (m)
46 /COM, OWALL = outer barrier thickness (m)
47 /COM, IWALL = inner barrier thickness (m)
48 /COM, DCIRD = disposal container inner radius (m)
49 /COM,
50 /COM, GCORN = corner guide width (m)
51 /COM, GWALL = basket guide thickness (m)
52 /COM, GLEN1 = side guide 1/3 width (m) (NOT USED)
53 /COM, GLENT = side guide total width (m) (NOT USED)
54 /COM,
55 /COM, HCELL = 1/2 of basket cell opening (m)
56 /COM, SWALL = stainless tube thickness (m)
57 /COM, TWALL = Aluminum thermal shunt thickness (m)
58 /COM, AWALL = Al/boron tube thickness (m) (NOT USED)
59 /COM,
60 /COM, ACTVL = active fuel length
61 /COM, PEAKF = assembly heat axial peaking factor
62 /COM,
63 /COM, MIRAD=1363.6/1000.0/2.0
64 /COM, MWALL=1.0000*2.54/100.0
65 DCRAD=1.6290/2.0
66 OWALL=0.1000
67 IWALL=0.0200
68 DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 GCORN=233.5/1000.0
71 GWALL=9.5/1000.0
72 /COM, GLEN1=9.6170*2.54/100.0
73 /COM, GLENT=28.866*2.54/100.0
74 /COM,
75 HCELL=223.5/1000.0/2.0
76 SWALL=5.0/1000.0
77 TWALL=10.0/1000.0
78 /COM, AWALL=0.2500*2.54/100.0
79 /COM,
80 ACTVL=141.8*2.54/100.0
81 PEAKF=1.25
82 /COM, Define calculated parameters
83 /COM, ASSY = assembly heat production (W) f(yrs)
84 /COM, FUEL = volumetric heat production (W/m3) f(yrs)
85 /COM, FVOLU = assy_volume=cell_width^2*active_length
86 /COM,
87 /COM, PITCH = basket cell outer width (m)
88 /COM, QCELL = 1/4 of basket cell opening (m)

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89 /COM,          SCELL = 1/2 of basket cell opening+SS wall(m)
90 /COM,          ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)
91 /COM,
92 /COM,          GX## = x coord. of basket guide or thermal shunt/shell c
93 /COM,          GX## = y coord. of basket guide or thermal shunt/shell c
94 /COM,
95 /COM,          MI45 = x coord. MIRAD at 45 deg. (NOT USED)
96 /COM,          MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
97 /COM,          DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
98 /COM,          DM45 = x coord. DCRAD-OWALL at 45 deg.
99 /COM,          DO45 = x coord. DCRAD at 45 deg.
100 *SET,ASSY,
101 *DIM,ASSY, TABLE,101,1,
102 *DIM,FUEL, TABLE,101,1
103 FVOLUME=4*HCELL*HCELL*ACTVL
104 /COM,
105 PITCH=(HCELL+SWALL)*2.0
106 QCELL=HCELL/2.0
107 SCELL=HCELL+SWALL
108 /COM,          ACELL=HCELL+SWALL+AWALL
109 /COM,
110 GX22=SCELL
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=SCELL+TWALL
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=PITCH+TWALL+SCELL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 GX25=GX23+PITCH+GWALL
117 GY25=SQRT(DCIRD*DCIRD-GX25*GX25)
118 /COM,
119 /COM,          MI45=MIRAD/SQRT(2.0)
120 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
121 DI45=DCIRD/SQRT(2.0)
122 DM45=(DCIRD-OWALL)/SQRT(2.0)
123 DO45=DCIRD/SQRT(2.0)
124 /COM,
125 /COM,          Define Transient Time parameters based upon the following:
126 /COM,          Note: 1 year = 3.15576e7 seconds
127 /COM,          TM_START = start time (sec)
128 /COM,          TMI* = time increment for solution (sec)
129 /COM,          TME* = start and stop for time do-loops (sec)
130 /COM,          TMTMAX = time of maximum cladding temperature
131 /COM,
132 TM_START=(1.0E-6)*(3.15576E7)
133 TMI0=0.1*3.15576E7
134 TMI1=1.0*3.15576E7
135 TMI10=10.0*3.15576E7
136 TMI100=100.0*3.15576E7
137 TMI1000=1000.0*3.15576E7
138 TME0=0.9*3.15576E7+TM_START
139 TME1=TMI1+TM_START
140 TME9=9.0*3.15576E7+TM_START
141 TME10=TMI10+TM_START
142 TME50=50.0*3.15576E7+TM_START
143 TME90=90.0*3.15576E7+TM_START
144 TME100=TMI100+TM_START
145 TME1000=TMI1000+TM_START
146 /COM,
147 /COM,          *****
148 /COM,          Define different element types
149 /PREP7
150 ETYPE
151 ET, 1,55,
152 ET, 2,70,
153 ET, 7,32,
154 ET, 16,57,
155 ET, 17,32,
156 ET, 18,50,1,
157 ET, 19,31,
158 ET, 27,32,

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159 /COM, *****
160 /COM, File props01.dat describes material properties
161 /COM, and thier reference numbers
162 MPREAD,props01,dat,
163 /COM, Read in single assembly heat loads
164 /COM, Calculate the volumetric heat generation
165 /COM, (Assembly time is in years, FUEL is in seconds)
166 /INPUT,snf1048,dat
167 *VFACT,3.15576E7,
168 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
169 *VFACT,(PEAKF/FVOLUME),
170 *VFUN,FUEL(1),COPY,ASSY(1),
171 FUEL(0,1)=1.0
172 /COM, *****
173 /COM, Define new material 14 for SNF effective conductivity
174 /COM, Density: DENS (kg/m^3)
175 /COM, Conductivity: KXX (W/m/K)
176 /COM, Specific Heat: C (J/kg/K)
177 MPTEMP
178 MPTEMP, 1, .00000E+00,
179 MPDATA,DENS,14, 1, .396004E+04,
180 MPDATA, C,14, 1, .27400E+03,
181 /COM, Store average effective conductivities
182 IINC=1
183 TBSKT=25.0
184 MPTEMP
185 MPTEMP,IINC,TBSKT,
186 IINC=IINC+1
187 *DO,TBSKT,50.0,400.0,50.0,
188 MPTEMP,IINC,TBSKT,
189 IINC=IINC+1
190 *ENDDO
191 IINC=1
192 TBSKT=25.0
193 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
194 IINC=IINC+1
195 *DO,TBSKT,50.0,400.0,50.0,
196 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
197 IINC=IINC+1
198 *ENDDO
199 /COM, *****
200 /COM, Construct geometry for Disposal Container
201 /COM,
202 /COM, Define center and axis keypoints for waste package
203 /COM, Also, create placeholder keypoints and lines
204 /COM, (K's 1,2,3,4,5,6,7,8)
205 /COM, (L's 1,2,3,4)
206 K,1,0.0,0.0,0.0,
207 K,2,0.0,0.0,1.0,
208 K,3,0.0,0.0,1.3,
209 K,4,0.0,0.0,1.4,
210 K,5,0.0,0.0,1.5,
211 K,6,0.0,0.0,1.6,
212 K,7,0.0,0.0,1.7,
213 K,8,0.0,0.0,1.8,
214 L,3,4,
215 L,4,5,
216 L,5,6,
217 L,6,7,
218 /COM, Define disposal container outer radius and material interface
219 /COM, (K's 9,10,11,12,13,14)
220 /COM, (L's 5,6,7,8,9,10,11)
221 /COM, (A's 1,2)
222 K, 9, 0.0, (0.0-DCRAD),0.0,
223 K,10, DCRAD, 0.0,0.0,
224 K,11, 0.0, DCRAD,0.0,
225 K,12, 0.0, (OWALL-DCRAD),0.0,
226 K,13, (DCRAD-OWALL), 0.0,0.0,
227 K,14, 0.0, (DCRAD-OWALL),0.0,
228 L,10,13,

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229 LARC,10, 9,1,          DCRAD,
230 LARC,11,10,1,         DCRAD,
231 LARC,13,12,1,         (DCRAD-OWALL),
232 LARC,14,13,1,         (DCRAD-OWALL),
233 L,11,14,
234 L, 9,12,
235 AL, 5, 6,11, 8,
236 AL,10, 7, 5, 9,
237 /COM, *****
238 /COM,          Define UCF shell inner edge and area
239 /COM,          (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
240 /COM,          ( 31,32,33)
241 /COM,          (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
242 /COM,          ( 28,29,30,31,32)
243 /COM,          (A's 3,4)
244 K,15, 0.0,          DCIRD,0.0,
245 K,16, GX22,          GY22,0.0,
246 K,17, GX23,          GY23,0.0,
247 K,18, GX24,          GY24,0.0,
248 K,19, GX25,          GY25,0.0,
249 K,20, GY25,          GX25,0.0,
250 K,21, GY24,          GX24,0.0,
251 K,22, GY23,          GX23,0.0,
252 K,23, GY22,          GX22,0.0,
253 K,24,DCIRD,          0.0,0.0,
254 K,25, GY22, (0.0-GX22),0.0,
255 K,26, GY23, (0.0-GX23),0.0,
256 K,27, GY24, (0.0-GX24),0.0,
257 K,28, GY25, (0.0-GX25),0.0,
258 K,29, GX25, (0.0-GY25),0.0,
259 K,30, GX24, (0.0-GY24),0.0,
260 K,31, GX23, (0.0-GY23),0.0,
261 K,32, GX22, (0.0-GY22),0.0,
262 K,33, 0.0,(0.0-DCIRD),0.0,
263 L,14,15,
264 LARC,16,15,1,DCIRD,
265 LARC,17,16,1,DCIRD,
266 LARC,18,17,1,DCIRD,
267 LARC,19,18,1,DCIRD,
268 LARC,20,19,1,DCIRD,
269 LARC,21,20,1,DCIRD,
270 LARC,22,21,1,DCIRD,
271 LARC,23,22,1,DCIRD,
272 LARC,24,23,1,DCIRD,
273 LARC,25,24,1,DCIRD,
274 LARC,26,25,1,DCIRD,
275 LARC,27,26,1,DCIRD,
276 LARC,28,27,1,DCIRD,
277 LARC,29,28,1,DCIRD,
278 LARC,30,29,1,DCIRD,
279 LARC,31,30,1,DCIRD,
280 LARC,32,31,1,DCIRD,
281 LARC,33,32,1,DCIRD,
282 L,33,12,
283 L,24,13,
284 LSEL,S,LINE,,12,21,
285 LSEL,A,LINE,, 9,
286 LSEL,A,LINE,,32,
287 AL,ALL,
288 LSEL,S,LINE,,22,31,
289 LSEL,A,LINE,, 8,
290 LSEL,A,LINE,,32,
291 AL,ALL,
292 LSEL,ALL,
293 /COM, *****
294 /COM,          Define tube guides
295 /COM,          (K's 34,35,36,37)
296 /COM,          (L's 33,34,35,36,37,38,39,40,41,42)
297 /COM,          (A's 5,6,7,8,9,10)
298 /COM,

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299 /COM,          top guide
300 K,34,          GX24,          GX24,0.0,
301 K,35,          GX25,          GX25,0.0,
302 L,19,35,
303 L,35,20,
304 L,21,34,
305 L,34,18,
306 /COM,          bottom guide
307 K,36,          GX25, (0.0-GX25),0.0,
308 K,37,          GX24, (0.0-GX24),0.0,
309 L,28,36,
310 L,36,29,
311 L,30,37,
312 L,37,27,
313 L,34,35,
314 L,37,36,
315 /COM, Guide gaps
316 AL,17,33,34,
317 AL,26,37,38,
318 /COM, Guide steel
319 AL,16,33,41,36,
320 AL,18,35,41,34,
321 AL,25,37,42,40,
322 AL,27,39,42,38,
323 /COM, *****
324 /COM, Define thermal shunts
325 /COM, (K's 38,39,40,41,42,43,44,45,46,47,48,49,50)
326 /COM, ( 51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)
327 /COM, (L's 43,44,45,46,47,48,49)
328 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)
329 /COM, ( 67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)
330 /COM, ( 84,85,86,87,88,89,90)
331 /COM, (A's 11 - 27)
332 /COM,
333 /COM, top horizontal thermal shunt
334 K,38,          0.0,          SCELL,0.0,
335 K,39,          0.0,          (SCELL+TWALL),0.0,
336 K,40,          SCELL,          SCELL,0.0,
337 K,41,          SCELL,          (SCELL+TWALL),0.0,
338 K,42,          (SCELL+TWALL),          SCELL,0.0,
339 K,43,          (SCELL+TWALL),          (SCELL+TWALL),0.0,
340 K,44,(SCELL+TWALL+1.0*PITCH),          SCELL,0.0,
341 K,45,(SCELL+TWALL+1.0*PITCH),          (SCELL+TWALL),0.0,
342 K,46,(SCELL+TWALL+2.0*PITCH),          SCELL,0.0,
343 K,47,(SCELL+TWALL+2.0*PITCH),          (SCELL+TWALL),0.0,
344 /COM, bottom horizontal thermal shunt
345 K,48,          0.0,          (0.0-SCELL),0.0,
346 K,49,          0.0,          (0.0-SCELL-TWALL),0.0,
347 K,50,          SCELL,          (0.0-SCELL),0.0,
348 K,51,          SCELL,          (0.0-SCELL-TWALL),0.0,
349 K,52,          (SCELL+TWALL),          (0.0-SCELL),0.0,
350 K,53,          (SCELL+TWALL),          (0.0-SCELL-TWALL),0.0,
351 K,54,(SCELL+TWALL+1.0*PITCH),          (0.0-SCELL),0.0,
352 K,55,(SCELL+TWALL+1.0*PITCH),          (0.0-SCELL-TWALL),0.0,
353 K,56,(SCELL+TWALL+2.0*PITCH),          (0.0-SCELL),0.0,
354 K,57,(SCELL+TWALL+2.0*PITCH),          (0.0-SCELL-TWALL),0.0,
355 /COM, right vertical thermal shunt
356 K,58,          SCELL,          (SCELL+TWALL+2.0*PITCH),0.0,
357 K,59,          (SCELL+TWALL),          (SCELL+TWALL+2.0*PITCH),0.0,
358 K,60,          SCELL,          (SCELL+TWALL+1.0*PITCH),0.0,
359 K,61,          (SCELL+TWALL),          (SCELL+TWALL+1.0*PITCH),0.0,
360 K,62,          SCELL,(0.0-SCELL-TWALL-1.0*PITCH),0.0,
361 K,63,          (SCELL+TWALL),(0.0-SCELL-TWALL-1.0*PITCH),0.0,
362 K,64,          SCELL,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
363 K,65,          (SCELL+TWALL),(0.0-SCELL-TWALL-2.0*PITCH),0.0,
364 /COM, Lines; shunt widths, top, bottom, then vertical: (43-60)
365 L,38,39,
366 L,40,41,
367 L,42,43,
368 L,44,45,

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369 L,46,47,
370 L,48,49,
371 L,50,51,
372 L,52,53,
373 L,54,55,
374 L,56,57,
375 L,58,59,
376 L,60,61,
377 L,41,43,
378 L,40,42,
379 L,50,52,
380 L,51,53,
381 L,62,63,
382 L,64,65,
383 /COM, Lines; shunt edges, top, bottom, then vertical: (61-90)
384 L,39,41,
385 L,40,38,
386 L,43,45,
387 L,44,42,
388 L,45,47,
389 L,46,44,
390 L,47,22,
391 L,23,46,
392 L,48,50,
393 L,51,49,
394 L,52,54,
395 L,55,53,
396 L,54,56,
397 L,57,55,
398 L,56,25,
399 L,26,57,
400 L,58,16,
401 L,17,59,
402 L,60,58,
403 L,59,61,
404 L,41,60,
405 L,61,43,
406 L,50,40,
407 L,42,52,
408 L,62,51,
409 L,53,63,
410 L,64,62,
411 L,63,65,
412 L,32,64,
413 L,65,31,
414 /COM, define areas for thermal shunts
415 AL,43,61,44,62,
416 AL,44,55,45,56,
417 AL,45,63,46,64,
418 AL,46,65,47,66,
419 AL,47,67,20,68,
420 AL,48,69,49,70,
421 AL,49,57,50,58,
422 AL,50,71,51,72,
423 AL,51,73,52,74,
424 AL,52,75,23,76,
425 AL,14,77,53,78,
426 AL,53,79,54,80,
427 AL,54,81,55,82,
428 AL,56,83,57,84,
429 AL,58,85,59,86,
430 AL,59,87,60,88,
431 AL,60,89,29,90,
432 /COM, *****
433 /COM, Define shell gaps at the exterior of the tube array
434 /COM, (K's 66 - 67)
435 /COM, (L's 91 - 99)
436 /COM, (A's 28 - 34)
437 /COM,
438 K,66, 0.0, (SCELL+TWALL+2.0*PITCH),0.0,

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439 K,67,          0.0,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
440 /COM,
441 L,15,66,
442 L,66,58,
443 L,59,18,
444 L,21,47,
445 L,46,56,
446 L,57,27,
447 L,30,65,
448 L,64,67,
449 L,67,33,
450 /COM,
451 AL,13,91,92,77,
452 AL,15,78,93,
453 AL,19,94,67,
454 AL,21,68,95,75,22,
455 AL,24,76,96,
456 AL,28,97,90,
457 AL,30,89,98,99,
458 /COM, *****
459 /COM, Define center half-tube
460 /COM, (K's 68-75)
461 /COM, (L's 100-110)
462 /COM, (A's 35-38)
463 K,68,          0.0,          HCELL,0.0,
464 K,69,          HCELL,          HCELL,0.0,
465 K,70,          0.0,          (0.0-HCELL),0.0,
466 K,71,          HCELL,          (0.0-HCELL),0.0,
467 K,72,          0.0,          SCELL,0.0,
468 K,73,          SCELL,          SCELL,0.0,
469 K,74,          0.0,          (0.0-SCELL),0.0,
470 K,75,          SCELL,          (0.0-SCELL),0.0,
471 L,70,68,
472 L,70,74,
473 L,68,72,
474 L,71,75,
475 L,69,73,
476 L,75,74,
477 L,71,70,
478 L,68,69,
479 L,72,73,
480 L,69,71,
481 L,73,75,
482 AL,100,106,109,107,
483 AL,101,105,103,106,
484 AL,109,103,110,104,
485 AL,102,107,104,108,
486 /COM, *****
487 /COM, Define center full-tube
488 /COM, (K's 76 - 83)
489 /COM, (L's 111 - 122)
490 /COM, (A's 39 - 43)
491 K,76,          (PITCH+TWALL-HCELL),          HCELL,0.0,
492 K,77,          (PITCH+TWALL+HCELL),          HCELL,0.0,
493 K,78,          (PITCH+TWALL-HCELL),          (0.0-HCELL),0.0,
494 K,79,          (PITCH+TWALL+HCELL),          (0.0-HCELL),0.0,
495 K,80,          (PITCH+TWALL-SCELL),          SCELL,0.0,
496 K,81,          (PITCH+TWALL+SCELL),          SCELL,0.0,
497 K,82,          (PITCH+TWALL-SCELL),          (0.0-SCELL),0.0,
498 K,83,          (PITCH+TWALL+SCELL),          (0.0-SCELL),0.0,
499 L,78,82,
500 L,76,80,
501 L,79,83,
502 L,77,81,
503 L,83,82,
504 L,79,78,
505 L,76,77,
506 L,80,81,
507 L,82,80,
508 L,78,76,

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509 L,77,79,
510 L,81,83,
511 AL,120,116,121,117,
512 AL,119,111,120,112,
513 AL,111,115,113,116,
514 AL,121,113,122,114,
515 AL,112,117,114,118,
516 /COM, *****
517 /COM,      Set element shapes and sizes for tubes
518 /COM,      14x14 mesh in fuel with 2
519 /COM,      divisions per tube layer
520 ESHAPE,2,
521 ESIZE,,1,
522 LSEL,S,LINE,,115,122,1,
523 LSEL,A,LINE,,109,110,1,
524 LSEL,A,LINE,,100,
525 LESIZE,ALL,,,14,
526 LSEL,S,LINE,,105,108,1,
527 LESIZE,ALL,,,7,
528 LSEL,S,LINE,,101,104,1,
529 LSEL,A,LINE,,111,114,1,
530 LESIZE,ALL,,,2,
531 LSEL,ALL,
532 /COM,
533 /COM,      Mesh areas
534 /COM,      first fuel, then stainless tubes
535 MAT,14,
536 TYPE,1,
537 AMESH,35,
538 AMESH,39,
539 MAT,1,
540 TYPE,1,
541 AMESH,36,38,1,
542 AMESH,40,43,1,
543 /COM, *****
544 /COM,      Copy tube mesh
545 /COM,
546 /COM,      center half tube above and below
547 /COM,      (A's 44 - 47)
548 AGEN,2,35,38,1,0.0,(PITCH+TWALL),0.0,0,0,
549 /COM,      (A's 48 - 51)
550 AGEN,2,35,38,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
551 /COM,      (A's 52 - 55)
552 AGEN,2,35,38,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
553 /COM,      (A's 56 - 59)
554 AGEN,2,35,38,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
555 /COM,
556 /COM,      center full tube side, above, and below
557 /COM,      (A's 60 - 64 = Side)
558 AGEN,2,39,43,1,PITCH,0.0,0.0,0,0,
559 /COM,      (A's 65 - 69 = up 1)
560 AGEN,2,39,43,1,0.0,(PITCH+TWALL),0.0,0,0,
561 /COM,      (A's 70 - 74 = up 2)
562 AGEN,2,39,43,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
563 /COM,      (A's 75 - 79 = down 1)
564 AGEN,2,39,43,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
565 /COM,      (A's 80 - 84 = down 2)
566 AGEN,2,39,43,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
567 /COM,      center full tube get corners
568 /COM,      (A's 85 - 89 = up corner)
569 AGEN,2,60,64,1,0.0,(PITCH+TWALL),0.0,0,0,
570 /COM,      (A's 90 - 94 = down corner)
571 AGEN,2,60,64,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
572 /COM,
573 NUMMRG,NODE,
574 NUMMRG,KP,
575 /COM, *****
576 /COM,      Create mesh in tube guides, thermal shunts
577 /COM,      Set mesh size for gaps.....
578 ESIZE,,2,

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579 LSEL,S,LINE,,41,60,1,
580 LSEL,A,LINE,,14,20,2,
581 LSEL,A,LINE,,23,29,2,
582 LESIZE,ALL,,, 2,
583 LSEL,S,LINE,,61,62,1,
584 LSEL,A,LINE,,69,70,1,
585 LSEL,A,LINE,,91,92,1,
586 LSEL,A,LINE,,98,99,1,
587 LSEL,A,LINE,,21,22,1,
588 LSEL,A,LINE,,77,78,1,
589 LSEL,A,LINE,,89,90,1,
590 LSEL,A,LINE,,67,68,1,
591 LSEL,A,LINE,,75,76,1,
592 LSEL,A,LINE,,13,
593 LSEL,A,LINE,,30,
594 LESIZE,ALL,,, 7,
595 LSEL,S,LINE,,63,66,1,
596 LSEL,A,LINE,,71,74,1,
597 LSEL,A,LINE,,79,88,1,
598 LSEL,A,LINE,,33,40,1,
599 LSEL,A,LINE,,93,97,1,
600 LSEL,A,LINE,,15,19,2,
601 LSEL,A,LINE,,24,28,2,
602 LESIZE,ALL,,, 14,
603 /COM, MESH CORNER GUIDES
604 ESHAPE,2,
605 ESIZE,,1,
606 MAT,2,
607 TYPE,1,
608 AMESH, 7,10,1,
609 /COM, MESH THERMAL SHUNTS
610 ESHAPE,2,
611 ESIZE,,1,
612 MAT,13,
613 TYPE,1,
614 AMESH,11,27,1,
615 /COM, *****
616 /COM, Create mesh in UCF inner shell
617 /COM, (L's 105,108)
618 LSEL,S,LINE,,13,21,1,
619 LCCAT,ALL,
620 LSEL,S,LINE,,22,30,1,
621 LCCAT,ALL,
622 LSEL,ALL,
623 LESIZE,8,,,64,
624 LESIZE,9,,,64,
625 LESIZE,12,,, 3,
626 LESIZE,31,,, 3,
627 MAT,2,
628 TYPE,1,
629 AMESH,3,4,1
630 /COM, Delete concatenated lines
631 /COM, (L's freed up 105,108)
632 /COM, LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
633 /COM,
634 LSEL,S,LINE,,6,7,1,
635 LESIZE,ALL,,,64,
636 LSEL,ALL,
637 LESIZE, 5,,, 3,
638 LESIZE,10,,, 3,
639 LESIZE,11,,, 3,
640 MAT,3,
641 TYPE,1,
642 AMESH,1,2,1,
643 NUMMRG,NODE,
644 NUMMRG,KP,
645 /COM, *****
646 /COM, Create mesh in empty basket spaces
647 ESIZE,0.1,
648 ESHAPE,0,

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649 MAT,7,
650 TYPE,1,
651 AMESH,5,6,1,
652 AMESH,28,34,1,
653 NUMMRG,NODE,
654 NUMMRG,KP,
655 /COM, *****
656 /COM,          Create radiation surface elements
657 /COM,          Basket spaces
658 MAT,2,
659 TYPE,17,
660 LMESH,13,21,2,
661 LMESH,22,30,2,
662 LMESH,33,34,1,
663 LMESH,37,38,1,
664 MAT,1,
665 TYPE,17,
666 LMESH,92,98,1,
667 MAT,13,
668 TYPE,17,
669 LMESH,67,68,1,
670 LMESH,75,78,1,
671 LMESH,89,90,1,
672 /COM,
673 FINISH
674 /COM, *****
675 /COM,          Create element mesh plots to illustrate model
676 /COM,          View mesh for entire model
677 /RESET
678 /TRIAD,OFF,
679 /NUM,1,
680 /PNUM,MAT,1,
681 /TYPE,HIDP,
682 /GLINE,,0,
683 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
684 /TITLE,21 PWR UCF/Waste Package - 1/2 FEM Model
685 /SHOW,meshfull,grph,1,8,
686 EPLOT
687 ESEL,U,MAT,,7,
688 /SHOW,meshgap,grph,1,8,
689 EPLOT
690 /COM,          View mesh for radiation substructure
691 /PNUM,MAT,0,
692 /PNUM,TYPE,1,
693 ESEL,S,TYPE,,17,
694 /TITLE,21 PWR UCF/Waste Package - Radiation Matrix
695 /SHOW,meshrad,grph,1,8,
696 EPLOT
697 ESEL,ALL,
698 /TITLE,21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
699 /COM, *****
700 /COM,          Generate super-elements
701 /AUX12,
702 ESEL,S,TYPE,,17,
703 NSLE,S,
704 STEF,5.67E-8,
705 GEOM,1,0,
706 VTYPE,0,800,
707 WRITE,spaces,
708 ESEL,ALL,
709 NSEL,ALL,
710 FINISH
711 /PREP7,
712 TYPE,18,
713 SE,spaces,
714 /COM,          Delete radiation edge elements
715 LSEL,S,TYPE,,17,
716 LCLEAR,ALL,
717 LSEL,ALL,
718 FINISH

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719 /COM, *****
720 /COM,          Set solution parameters and apply B.C.'s
721 /COM,
722 /COM,          Solve steady-state for initial conditions
723 /COM,          with WP surface equal to drift ambient
724 /COM,          temperature from repository model.
725 /SOLU
726 ANTYPE,TRAN,NEW,
727 NROPT,AUTO,
728 TRNOPT,FULL,
729 TOFFST,273.15,
730 LSEL,S,LINE,,6,
731 LSEL,A,LINE,,7,
732 NSLL,S,1,
733 D,ALL,TEMP,DFAMBT,
734 LSEL,ALL,
735 NSEL,ALL,
736 ASEL,S,MAT,,14,
737 ESLA,S,
738 BFE,ALL,HGEN,,(FUEL(TM_START)),
739 ASEL,ALL,
740 ESEL,ALL,
741 TIMINT,OFF,
742 TIME,1e-6,
743 AUTOTS,ON,
744 KBC,0,
745 SOLVE
746 /COM,          Solve steady-state for initial conditions
747 /COM,          with WP surface temperatures from repository
748 /COM,          steady-state solution.
749 LSEL,S,LINE,,6,
750 LSEL,A,LINE,,7,
751 NSLL,S,1,
752 DDELETE,ALL,TEMP,
753 LSEL,ALL,
754 NSEL,ALL,
755 DK,11,TEMP,(WPTOP(TM_START)),,1,
756 DK,10,TEMP,(WPSID(TM_START)),,1,
757 DK, 9,TEMP,(WPBOT(TM_START)),,1,
758 ASEL,S,MAT,,14,
759 ESLA,S,
760 BFE,ALL,HGEN,,(FUEL(TM_START)),
761 ASEL,ALL,
762 ESEL,ALL,
763 TIMINT,OFF,
764 TIME,2e-6,
765 AUTOTS,ON,
766 KBC,0,
767 SOLVE
768 /COM, *****
769 /COM,          Set time integration parameters
770 TIMINT,ON,
771 AUTOTS,ON,
772 /COM,          Time substep ranges from 10 sec to 1/4 loadstep
773 NSUBST,10,40,5,ON
774 /COM,          Begin Transient
775 /COM,          Apply loads and solve for 0 to .9 years
776 *DO,TM,TM_START,TME0,TM10
777     TIME,TM,
778     ASEL,S,MAT,,14,
779     ESLA,S,
780     BFE,ALL,HGEN,,(FUEL(TM)),
781     ASEL,ALL
782     ESEL,ALL
783     DK,11,TEMP,(WPTOP(TM)),,1,
784     DK,10,TEMP,(WPSID(TM)),,1,
785     DK, 9,TEMP,(WPBOT(TM)),,1,
786     SOLVE
787 *ENDDO
788 /COM,          Apply loads and solve for 1 to 9 years

```

```

789 *DO,TM,TME1,TME9,TM11
790     TIME,TM,
791     ASEL,S,MAT,,14,
792     ESLA,S,
793     BFE,ALL,HGEN,,(FUEL(TM)),
794     ASEL,ALL
795     ESEL,ALL
796     DK,11,TEMP,(WPTOP(TM)),,1,
797     DK,10,TEMP,(WPSID(TM)),,1,
798     DK, 9,TEMP,(WPBOT(TM)),,1,
799     SOLVE
800 *ENDDO
801 /COM,          Apply loads and solve for 10 to 90 years
802 *DO,TM,TME10,TME90,TM110
803     TIME,TM,
804     ASEL,S,MAT,,14,
805     ESLA,S,
806     BFE,ALL,HGEN,,(FUEL(TM)),
807     ASEL,ALL
808     ESEL,ALL
809     DK,11,TEMP,(WPTOP(TM)),,1,
810     DK,10,TEMP,(WPSID(TM)),,1,
811     DK, 9,TEMP,(WPBOT(TM)),,1,
812     SOLVE
813 *ENDDO
814 /COM,          Apply loads and solve for 100 to 1000 years
815 *DO,TM,TME100,TME1000,TM1100
816     TIME,TM,
817     ASEL,S,MAT,,14,
818     ESLA,S,
819     BFE,ALL,HGEN,,(FUEL(TM)),
820     ASEL,ALL
821     ESEL,ALL
822     DK,11,TEMP,(WPTOP(TM)),,1,
823     DK,10,TEMP,(WPSID(TM)),,1,
824     DK, 9,TEMP,(WPBOT(TM)),,1,
825     SOLVE
826 *ENDDO
827 FINISH
828 SAVE,
829 /COM,          *****
830 /COM,          Create element contour plots of solution results
831 /COM,
832 /COM,          Sort through solution results for time of max temp.
833 /POST26,
834 NSOL,2,(NODE(0.0,0.0,0.0)),TEMP,,peakclad,
835 STORE,NEW,
836 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
837 FINISH
838 /POST1,
839 /COM,          Create temperature contour plots of WP at peak
840 /RESET
841 /TRIAD,OFF,
842 /NUM, 1,
843 /PNUM,MAT, 1,
844 /TYPE,HIDP,
845 /GLINE,-1,
846 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
847 ESEL,U,MAT,,7,
848 SET,NEAR,,,,TMTMAX,
849 /TITLE, 21 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
850 /SHOW,solupk,grph,0,8,
851 /CONTOUR,1,128,AUTO,
852 PLNSOL,TEMP,
853 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
854 SET,NEAR,,,,TME10,
855 /TITLE, 21 PWR UCF/WP at 10 years
856 /SHOW,solu10,grph,0,8,
857 /CONTOUR,1,128,USER,
858 PLNSOL,TEMP,

```

```

859 SET,NEAR,,,,TME50,
860 /TITLE, 21 PWR UCF/WP at 50 years
861 /SHOW,solu50,grph,0,8,
862 /CONTOUR,1,128,USER,
863 PLNSOL,TEMP,
864 SET,NEAR,,,,TME100,
865 /TITLE, 21 PWR UCF/WP at 100 years
866 /SHOW,solu100,grph,0,8,
867 /CONTOUR,1,128,USER,
868 PLNSOL,TEMP,
869 ESEL,ALL,
870 FINISH
871 /COM, *****
872 /COM,      Print time/temperature output at specific locations
873 /COM,      Save profile from center to edge
874 /COM,
875 /COM,      Variable Legend: A01i000
876 /COM,      c = center of assembly
877 /COM,      h = halfway between center and tube
878 /COM,      s = inside structural stainless tube layer
879 /COM,      t = stainless tube cladding
880 /COM,      g = tube guide
881 /COM,      i = inner barrier of DC
882 /COM,      o = outer barrier of DC
883 /COM,      ## = ID number of assembly (01 is center)
884 /COM,      i = side of assembly toward center of WP
885 /COM,      o = side of assembly toward edge of WP
886 /COM,      000 = profile center down
887 /COM,      045 = profile 45 deg down
888 /COM,      090 = profile center side
889 /COM,      135 = profile 45 deg up
890 /COM,      180 = profile center up
891 /POST26,
892 NUMVAR,30,
893 /COM,
894 /COM, *****
895 /COM, *   Temperature Profile from center to bottom of WP (0 deg.)   *
896 /COM, *****
897 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,c01i000,
898 NSOL, 3,(NODE(0.0, (0.0-QCELL),0.0)),TEMP,,h01o000,
899 NSOL, 4,(NODE(0.0, (0.0-HCELL),0.0)),TEMP,,s01o000,
900 NSOL, 5,(NODE(0.0, (0.0-SCCELL),0.0)),TEMP,,t01o000,
901 NSOL, 6,(NODE(0.0, (0.0-SCCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o000,
902 NSOL, 7,(NODE(0.0, (SCCELL-(PITCH+TWALL)),0.0)),TEMP,,t06i000,
903 NSOL, 8,(NODE(0.0, (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s06i000,
904 NSOL, 9,(NODE(0.0, (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h06i000,
905 NSOL,10,(NODE(0.0, ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c06i000,
906 NSOL,11,(NODE(0.0,((-1.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h06o000,
907 NSOL,12,(NODE(0.0,((-1.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s06o000,
908 NSOL,13,(NODE(0.0, (SCCELL-2.0*PITCH-TWALL),0.0)),TEMP,,t13i000,
909 NSOL,14,(NODE(0.0, (HCELL-2.0*PITCH-TWALL),0.0)),TEMP,,s13i000,
910 NSOL,15,(NODE(0.0, (QCELL-2.0*PITCH-TWALL),0.0)),TEMP,,h13i000,
911 NSOL,16,(NODE(0.0, (-2.0*PITCH-TWALL),0.0)),TEMP,,c13i000,
912 NSOL,17,(NODE(0.0,((-2.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h13o000,
913 NSOL,18,(NODE(0.0,((-2.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s13o000,
914 NSOL,19,(NODE(0.0,((-2.0*PITCH)-TWALL-SCCELL),0.0)),TEMP,,t13o000,
915 NSOL,20,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i13i000,
916 NSOL,21,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i13o000,
917 NSOL,22,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o13o000,
918 PRVAR, 2, 3, 4, 5, 6, 7,
919 PRVAR, 8, 9,10,11,12,13,
920 PRVAR,14,15,16,17,18,19,
921 PRVAR,20,21,22,
922 /COM,
923 /COM, *****
924 /COM, *   Temperature Profile from center to lower right (45 deg.)   *
925 /COM, *****
926 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,c01i045,
927 NSOL, 3,(NODE( QCELL, (0.0-QCELL),0.0)),TEMP,,h01o045,
928 NSOL, 4,(NODE( HCELL, (0.0-HCELL),0.0)),TEMP,,s01o045,

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```

929 NSOL, 5, (NODE( SCCELL, (0.0-SCCELL), 0.0)), TEMP, ,t01o045,
930 NSOL, 6, (NODE( (SCCELL+0.5*TWALL), (0.0-SCCELL-(0.5*TWALL)), 0.0)), TEMP, ,ts1o045,
931 NSOL, 7, (NODE( (PITCH+TWALL-SCCELL), (SCCELL-(PITCH+TWALL)), 0.0)), TEMP, ,t08i045,
932 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), (HCELL-(PITCH+TWALL)), 0.0)), TEMP, ,s08i045,
933 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), (QCELL-(PITCH+TWALL)), 0.0)), TEMP, ,h08i045,
934 NSOL, 10, (NODE( (1.0*PITCH+TWALL), ((-1.0*PITCH)-TWALL), 0.0)), TEMP, ,c08i045,
935 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), (0.0-PITCH-TWALL-QCELL), 0.0)), TEMP, ,h08o045,
936 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), (0.0-PITCH-TWALL-HCELL), 0.0)), TEMP, ,s08o045,
937 NSOL, 13, (NODE( GX24, (0.0-GX24), 0.0)), TEMP, ,g08i045,
938 NSOL, 14, (NODE( GX25, (0.0-GX25), 0.0)), TEMP, ,g08o045,
939 NSOL, 15, (NODE( DI45, (-1.0*DI45), 0.0)), TEMP, ,i08i045,
940 NSOL, 16, (NODE( DM45, (-1.0*DM45), 0.0)), TEMP, ,i08o045,
941 NSOL, 17, (NODE( DO45, (-1.0*DO45), 0.0)), TEMP, ,o08o045,
942 /COM, Add centers of assemblies 11 and 12
943 NSOL, 18, (NODE( (2.0*PITCH+TWALL), (-1.0*PITCH-TWALL), 0.0)), TEMP, ,c11i045,
944 NSOL, 19, (NODE( (PITCH+TWALL), (-2.0*PITCH-TWALL), 0.0)), TEMP, ,c12i045,
945 PRVAR, 2, 3, 4, 5, 6, 7,
946 PRVAR, 8, 9, 10, 11, 12, 13,
947 PRVAR, 14, 15, 16, 17, 18, 19,
948 /COM,
949 /COM, *****
950 /COM, * Temperature Profile from center to side of WP (90 deg.) *
951 /COM, *****
952 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,c01i090,
953 NSOL, 3, (NODE( QCELL, 0.0, 0.0)), TEMP, ,h01o090,
954 NSOL, 4, (NODE( HCELL, 0.0, 0.0)), TEMP, ,s01o090,
955 NSOL, 5, (NODE( SCCELL, 0.0, 0.0)), TEMP, ,t01o090,
956 NSOL, 6, (NODE( (SCCELL+0.5*TWALL), 0.0, 0.0)), TEMP, ,ts1o090,
957 NSOL, 7, (NODE( (PITCH+TWALL-SCCELL), 0.0, 0.0)), TEMP, ,t02i090,
958 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), 0.0, 0.0)), TEMP, ,s02i090,
959 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), 0.0, 0.0)), TEMP, ,h02i090,
960 NSOL, 10, (NODE( (PITCH+TWALL), 0.0, 0.0)), TEMP, ,c02i090,
961 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), 0.0, 0.0)), TEMP, ,h02o090,
962 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), 0.0, 0.0)), TEMP, ,s02o090,
963 NSOL, 13, (NODE( (PITCH+TWALL+SCCELL), 0.0, 0.0)), TEMP, ,t02i090,
964 NSOL, 14, (NODE( (2.0*PITCH+TWALL-HCELL), 0.0, 0.0)), TEMP, ,s04i090,
965 NSOL, 15, (NODE( (2.0*PITCH+TWALL-QCELL), 0.0, 0.0)), TEMP, ,h04i090,
966 NSOL, 16, (NODE( (2.0*PITCH+TWALL), 0.0, 0.0)), TEMP, ,c04i090,
967 NSOL, 17, (NODE( (2.0*PITCH+TWALL+QCELL), 0.0, 0.0)), TEMP, ,h04o090,
968 NSOL, 18, (NODE( (2.0*PITCH+TWALL+HCELL), 0.0, 0.0)), TEMP, ,s04o090,
969 NSOL, 19, (NODE( (2.0*PITCH+TWALL+SCCELL), 0.0, 0.0)), TEMP, ,t04o090,
970 NSOL, 20, (NODE( (DCRAD-OWALL-IWALL), 0.0, 0.0)), TEMP, ,i04i090,
971 NSOL, 21, (NODE( (DCRAD-OWALL), 0.0, 0.0)), TEMP, ,i04o090,
972 NSOL, 22, (NODE( (DCRAD, 0.0, 0.0)), TEMP, ,o04o090,
973 PRVAR, 2, 3, 4, 5, 6, 7,
974 PRVAR, 8, 9, 10, 11, 12, 13,
975 PRVAR, 14, 15, 16, 17, 18, 19,
976 PRVAR, 20, 21, 22,
977 /COM,
978 /COM, *****
979 /COM, * Temperature Profile from center to upper right (135 deg.) *
980 /COM, *****
981 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,c01i135,
982 NSOL, 3, (NODE( QCELL, QCELL, 0.0)), TEMP, ,h01o135,
983 NSOL, 4, (NODE( HCELL, HCELL, 0.0)), TEMP, ,s01o135,
984 NSOL, 5, (NODE( SCCELL, SCCELL, 0.0)), TEMP, ,t01o135,
985 NSOL, 6, (NODE( (SCCELL+0.5*TWALL), (SCCELL+0.5*TWALL), 0.0)), TEMP, ,ts1o135,
986 NSOL, 7, (NODE( (PITCH+TWALL-SCCELL), (PITCH+TWALL-SCCELL), 0.0)), TEMP, ,t07i135,
987 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), (PITCH+TWALL-HCELL), 0.0)), TEMP, ,s07i135,
988 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), (PITCH+TWALL-QCELL), 0.0)), TEMP, ,h07i135,
989 NSOL, 10, (NODE( (PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c07i135,
990 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), (PITCH+TWALL+QCELL), 0.0)), TEMP, ,h07o135,
991 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), (PITCH+TWALL+HCELL), 0.0)), TEMP, ,s07o135,
992 NSOL, 13, (NODE( GX24, GX24, 0.0)), TEMP, ,g07i135,
993 NSOL, 14, (NODE( GX25, GX25, 0.0)), TEMP, ,g07o135,
994 NSOL, 15, (NODE( DI45, DI45, 0.0)), TEMP, ,i07i135,
995 NSOL, 16, (NODE( DM45, DM45, 0.0)), TEMP, ,i07o135,
996 NSOL, 17, (NODE( DO45, DO45, 0.0)), TEMP, ,o07o135,
997 /COM, Add centers of assemblies 9 and 10
998 NSOL, 18, (NODE( (2.0*PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c09i135,

```

```

999 NSOL,19,(NODE(      (PITCH+TWALL), (2.0*PITCH+TWALL),0.0)),TEMP,,c10i135,
1000 PRVAR, 2, 3, 4, 5, 6, 7,
1001 PRVAR, 8, 9,10,11,12,13,
1002 PRVAR,14,15,16,17,18,19,
1003 /COM,
1004 /COM, *****
1005 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1006 /COM, *****
1007 NSOL, 2,(NODE(0.0,      0.0,0.0)),TEMP,,c01i180,
1008 NSOL, 3,(NODE(0.0,      QCELL,0.0)),TEMP,,h01o180,
1009 NSOL, 4,(NODE(0.0,      HCELL,0.0)),TEMP,,s01o180,
1010 NSOL, 5,(NODE(0.0,      SCELL,0.0)),TEMP,,t01o180,
1011 NSOL, 6,(NODE(0.0,      (SCELL+0.5*TWALL),0.0)),TEMP,,ts5i180,
1012 NSOL, 7,(NODE(0.0,      (PITCH+TWALL-SCELL),0.0)),TEMP,,t05i180,
1013 NSOL, 8,(NODE(0.0,      (PITCH+TWALL-HCELL),0.0)),TEMP,,s05i180,
1014 NSOL, 9,(NODE(0.0,      (PITCH+TWALL-QCELL),0.0)),TEMP,,h05i180,
1015 NSOL,10,(NODE(0.0,      (PITCH+TWALL),0.0)),TEMP,,c05i180,
1016 NSOL,11,(NODE(0.0,      (PITCH+TWALL+QCELL),0.0)),TEMP,,h05o180,
1017 NSOL,12,(NODE(0.0,      (PITCH+TWALL+HCELL),0.0)),TEMP,,s05o180,
1018 NSOL,13,(NODE(0.0,      (PITCH+TWALL+SCELL),0.0)),TEMP,,t05i180,
1019 NSOL,14,(NODE(0.0,(2.0*PITCH+TWALL-HCELL),0.0)),TEMP,,s03i180,
1020 NSOL,15,(NODE(0.0,(2.0*PITCH+TWALL-QCELL),0.0)),TEMP,,h03i180,
1021 NSOL,16,(NODE(0.0,      (2.0*PITCH+TWALL),0.0)),TEMP,,c03i180,
1022 NSOL,17,(NODE(0.0,(2.0*PITCH+TWALL+QCELL),0.0)),TEMP,,h03o180,
1023 NSOL,18,(NODE(0.0,(2.0*PITCH+TWALL+HCELL),0.0)),TEMP,,s03o180,
1024 NSOL,19,(NODE(0.0,(2.0*PITCH+TWALL+SCELL),0.0)),TEMP,,t03o180,
1025 NSOL,20,(NODE(0.0,      (DCRAD-OWALL-IWALL),0.0)),TEMP,,i03i180,
1026 NSOL,21,(NODE(0.0,      (DCRAD-OWALL),0.0)),TEMP,,i03o180,
1027 NSOL,22,(NODE(0.0,      DCRAD,0.0)),TEMP,,o03o180,
1028 PRVAR, 2, 3, 4, 5, 6, 7,
1029 PRVAR, 8, 9,10,11,12,13,
1030 PRVAR,14,15,16,17,18,19,
1031 PRVAR,20,21,22,
1032 FINISH
1033 /COM, *****
1034 /COM, End of batch input file
1035 /COM, *****
1036 /EXIT,
1037 /EOF

```

RUN SETUP PROCEDURE FROM FILE= /ansys50a/docu/start.ans

```

/INPUT FILE= /ansys50a/docu/start.ans LINE=      0
*****
ANSYS STARTUP FILE start.ans
*****

```

```

ABBREVIATION= K1      /pnum,kp ,1,
ABBREVIATION= K0      /pnum,kp ,0,
ABBREVIATION= L1      /pnum,line,1,
ABBREVIATION= L0      /pnum,line,0,
ABBREVIATION= A1      /pnum,area,1,
ABBREVIATION= A0      /pnum,area,0,
ABBREVIATION= V1      /pnum,volu,1,
ABBREVIATION= V0      /pnum,volu,0,
ABBREVIATION= N1      /pnum,node,1,
ABBREVIATION= N0      /pnum,node,0,
ABBREVIATION= E1      /pnum,elem,1,
ABBREVIATION= E0      /pnum,elem,0,

```

ABBREVIATION= M1 /pnum,mat ,1,
 ABBREVIATION= M0 /pnum,mat ,0,
 ABBREVIATION= R1 /pnum,real,1,
 ABBREVIATION= R0 /pnum,real,0,
 ABBREVIATION= T1 /pnum,type,1,
 ABBREVIATION= T0 /pnum,type,0,
 ABBREVIATION= C1 /number,1,
 ABBREVIATION= C0 /number,0,
 ABBREVIATION= INP /input,,inp,
 ABBREVIATION= X3D /show,3d,
 ABBREVIATION= X11 /show,x11,
 ABBREVIATION= VEC /show,,,1,
 ABBREVIATION= RAS /show,,,0,
 ABBREVIATION= ON /menu,on,
 ABBREVIATION= OFF /menu,off,
 ABBREVIATION= NVP /config,nvpag,512,

ABBREVIATION= QUIT /exit,nosav,
 XYZ TRIAD DISPLAY SET TO OFF

VIEW CONE ANGLE FOR WINDOW 1 25.00

 END start.ans

To start ANSYS menu:

type: x3d for console
 x11 for X-term

type: on

 ANSYS REVISION 5.0A 6/10/1995
 2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz

 * *
 * File name: ucf21x.inp *
 * 21 PWR UCF with High T.L. Disposal Container *
 * Helium Fill Gas *
 * *
 * Material Property file: props01.dat *
 * *
 * SNF Conductivity file: pwr15e.parm *
 * 15x15 Mark-B4 PWR SNF Assembly *
 * *
 * SNF Heat Loads file: snf1048.dat *
 * SNF Type: 10 years old, 48086 MWd/MTU *
 * *
 * Surface Temp. file: c21x5a.parm *
 * 100 MTU/acre (24.7 kgU/m^2) AML (High Thermal Loading) *
 * 5.0 m Diameter Drift with Concrete Invert *
 * Drift spacing = 22.5 m *

```
*      WP c/c spacing = 16.164 m      *
*
*****
Increase the number of database pages from 16 (256) to 32 Mb
```

```
NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512
Work space must also be increased (-m 64)
*****
```

```
TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
```

```
SI UNITS SPECIFIED
LENGTH      = METERS(M)
MASS        = KILOGRAMS(KG)
TIME        = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT     = AMPS
*****
Read in average effective conductivities from SNF model
```

```
*** NOTE ***                      CP=      .610   TIME= 20:30:06
Restore ANSYS parameters from file= pwr15e.parm.
```

```
/INPUT FILE= pwr15e.parm LINE=      0
```

```
PRINTOUT RESUMED BY /GOP
Read in surface temps. from repository model
```

```
*** NOTE ***                      CP=      .840   TIME= 20:30:06
Restore ANSYS parameters from file= c21x5a.parm.
```

```
/INPUT FILE= c21x5a.parm LINE=      0
```

```
PRINTOUT RESUMED BY /GOP
*****
```

Define Required Constants:

```
PARAMETER PI      =      3.141593
```

```
Define UCF/waste package parameters
(UCF dimensions converted from inches/cm/mm to meters were requi
MIRAD = inner radius of UCF He Backfill shell (m) (NOT
MWALL = UCF He Backfill shell thickness (m) (NOT
DCRAD = disposal container outer radius (m)
OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)
DCIRD = disposal container inner radius (m)

GCORN = corner guide width (m)
GWALL = basket guide thickness (m)
GLEN1 = side guide 1/3 width (m) (NOT USED)
GLEN2 = side guide total width (m) (NOT USED)

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
TWALL = Aluminum thermal shunt thickness (m)
AWALL = Al/boron tube thickness (m) (NOT USED)

ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor
```

```
MIRAD=1363.6/1000.0/2.0
MWALL=1.0000*2.54/100.0
```

```
PARAMETER DCRAD    =      .8145000
```

```
PARAMETER OWALL    =      .1000000
```


PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .6945000

PARAMETER GCORN = .2335000

PARAMETER GWALL = .9500000E-02

GLEN1=9.6170*2.54/100.0

GLENT=28.866*2.54/100.0

PARAMETER HCELL = .1117500

PARAMETER SWALL = .5000000E-02

PARAMETER TWALL = .1000000E-01

AWALL=0.2500*2.54/100.0

PARAMETER ACTVL = 3.601720

PARAMETER PEAKF = 1.250000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)

FUEL = volumetric heat production (W/m3) f(yrs)

FVOLL = assy_volume=cell_width^2*active_length

PITCH = basket cell outer width (m)

QCELL = 1/4 of basket cell opening (m)

SCELL = 1/2 of basket cell opening+SS wall(m)

ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)

GX## = x coord. of basket guide or thermal shunt/shell c

GY## = y coord. of basket guide or thermal shunt/shell c

MI45 = x coord. MIRAD at 45 deg. (NOT USED)

MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)

DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.

DM45 = x coord. DCRAD-OWALL at 45 deg.

DO45 = x coord. DCRAD at 45 deg.

ARRAY PARAMETER ASSY DELETED.

SET PARAMETER DIMENSIONS ON ASSY TYPE=TABL DIMENSIONS= 101 1 1

SET PARAMETER DIMENSIONS ON FUEL TYPE=TABL DIMENSIONS= 101 1 1

PARAMETER FVOLL = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500

ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .1167500

PARAMETER GY22 = .6846165

PARAMETER GX23 = .1267500

PARAMETER GY23 = .6828358

PARAMETER GX24 = .3602500
 PARAMETER GY24 = .5937594
 PARAMETER GX25 = .3697500
 PARAMETER GY25 = .5878905

MI45=MIRAD/SQRT(2.0)
 MO45=(MIRAD+MWALL)/SQRT(2.0)

PARAMETER DI45 = .4910857
 PARAMETER DM45 = .5052278
 PARAMETER DO45 = .5759385

Define Transient Time parameters based upon the following:

Note: 1 year = 3.15576e7 seconds
 TM_START = start time (sec)
 TMI* = time increment for solution (sec)
 TME* = start and stop for time do-loops (sec)
 TMTMAX = time of maximum cladding temperature

PARAMETER TM_START = 31.55760
 PARAMETER TM10 = 3155760.
 PARAMETER TM11 = .3155760E+08
 PARAMETER TM110 = .3155760E+09
 PARAMETER TM1100 = .3155760E+10
 PARAMETER TM11000 = .3155760E+11
 PARAMETER TME0 = .2840187E+08
 PARAMETER TME1 = .3155763E+08
 PARAMETER TME9 = .2840184E+09
 PARAMETER TME10 = .3155760E+09
 PARAMETER TME50 = .1577880E+10
 PARAMETER TME90 = .2840184E+10
 PARAMETER TME100 = .3155760E+10
 PARAMETER TME1000 = .3155760E+11

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:30:07 JUN 10, 1995 CP= 1.780
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE 1 IS PLANE55 2-D THERMAL SOLID
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP

TWO-DIMENSIONAL MODEL

ELEMENT TYPE 2 IS SOLID70 3-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 7 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 16 IS SHELL57 THERMAL SHELL
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 17 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 18 IS MATRIX50 SUBSTRUCTURE MATRIX
KEYOPT(1-12)= 1 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 19 IS LINK31 RADIATION LINK
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 27 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

File props01.dat describes material properties
and thier reference numbers

READ IN MATERIAL PROPERTY LIBRARY FROM FILE= props01.dat

/INPUT FILE= props01.dat LINE= 0

** ANSYS 5.0 MPC MATERIAL PROPERTY TABLES **

** Filename: props01.dat **
** Compiled by R. Bahney III on 1-30-95 **

NUMBER	MATERIAL	DESCRIPTION
1	Stainless Steel 316	Basket Structural Support
2	Incaloy 825	Inner Container (resistant)
3	A516 Mild Steel	Outer Container (allowance)
4	UO2 Pellet	SNF Uranium Oxide Pellet
5	Zircaloy 4	SNF Cladding
6	Oxidation Layer	Stably Oxidized Zircaloy Surface
7	Helium	Canister Fill Gas
8	Air	Alternate Fill Gas
9	Nitrogen	Alternate Fill Gas
10	Argon	Alternate Fill Gas
11	Aluminum 6063	Thermal Conductor
12	Copper	Alternate Thermal Conductor

13 Aluminum-Boron Aluminum Boron Criticality Matl

```
*****
** Density:      DENS      (kg/m^3)      **
** Emissivity    EMIS      **
** Conductivity: KXX      (W/m/K)      **
** Specific Heat: C      (J/kg/K)      **
*****
```

Define densities for all materials except gases

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
SLOC= 1 8000.000

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
SLOC= 1 8137.900

PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
SLOC= 1 8131.000

PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
SLOC= 1 10970.00

PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 6 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 11 NUM. POINTS= 1
SLOC= 1 2690.000

PROPERTY TABLE DENS MAT= 12 NUM. POINTS= 1
SLOC= 1 8933.000

PROPERTY TABLE DENS MAT= 13 NUM. POINTS= 1
SLOC= 1 2693.000

Define emissivities for all materials except gases

PROPERTY TABLE EMIS MAT= 1 NUM. POINTS= 1
SLOC= 1 .6000000

PROPERTY TABLE EMIS MAT= 2 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 3 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 4 NUM. POINTS= 1
SLOC= 1 .7900000

PROPERTY TABLE EMIS MAT= 5 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 6 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 11 NUM. POINTS= 1
SLOC= 1 .7000000E-01

PROPERTY TABLE EMIS MAT= 12 NUM. POINTS= 1
SLOC= 1 .5000000

PROPERTY TABLE EMIS MAT= 13 NUM. POINTS= 1

SLOC= 1 .7000000E-01

Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15

PROPERTY TABLE C MAT= 4 NUM. POINTS= 1
SLOC= 1 247.0000

PROPERTY TABLE C MAT= 5 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 6 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 7 NUM. POINTS= 1
SLOC= 1 5193.000

PROPERTY TABLE C MAT= 11 NUM. POINTS= 1
SLOC= 1 900.0000

Define K and C for materials 1, 3

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 21.11000 37.78000 65.56000
93.33000 121.1100 148.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 176.6700 204.4400 232.2200
260.0000 287.7800 315.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 343.3300 371.1100 398.8900
426.6700 454.4400 482.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
SLOC= 19 510.0000 537.7800 565.5600
593.3300 621.1100 648.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
SLOC= 25 676.6700 704.4400 732.2200
760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 6
SLOC= 1 13.33000 13.67000 14.19000 14.54000
15.06000 15.58000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 12
SLOC= 7 15.92000 16.44000 16.96000 17.31000
17.83000 18.17000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 18
SLOC= 13 18.52000 19.04000 19.38000 19.90000
20.25000 20.77000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 24
SLOC= 19 21.11000 21.46000 21.98000 22.33000
22.67000 23.02000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 30
SLOC= 25 23.54000 23.88000 24.23000 24.58000
24.92000 25.27000

PROPERTY TABLE C MAT= 1 NUM. POINTS= 6
SLOC= 1 481.6800 486.9200 498.0900 499.3800
509.9800 520.2900

PROPERTY TABLE C MAT= 1 NUM. POINTS= 12
SLOC= 7 521.0700 527.3800 536.9200 537.3400
543.0200 543.3100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 18
 SLOC= 13 546.9100 552.1400 552.2600 557.2200
 557.2500 565.1100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 24
 SLOC= 19 565.0100 564.9100 572.3500 572.1400
 574.9200 574.6800

PROPERTY TABLE C MAT= 1 NUM. POINTS= 30
 SLOC= 25 581.6400 581.3000 583.8600 586.3600
 585.9600 588.3900

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 6
 SLOC= 1 40.84000 41.36000 41.88000 42.23000
 42.23000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 12
 SLOC= 7 42.06000 41.88000 41.36000 41.02000
 40.50000 39.98000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 18
 SLOC= 13 39.29000 38.77000 38.08000 37.56000
 36.69000 36.17000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 24
 SLOC= 19 35.48000 34.61000 33.92000 33.23000
 32.36000 31.50000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 30
 SLOC= 25 30.29000 28.90000 27.35000 26.48000
 26.13000 26.13000

PROPERTY TABLE C MAT= 3 NUM. POINTS= 6
 SLOC= 1 428.7200 444.9500 460.9400 476.8700
 486.0800 495.6600

PROPERTY TABLE C MAT= 3 NUM. POINTS= 12
 SLOC= 7 506.0900 517.0700 525.6400 536.9900
 543.6300 550.6200

PROPERTY TABLE C MAT= 3 NUM. POINTS= 18
 SLOC= 13 562.2100 577.3200 589.1000 600.5700
 611.3500 629.0900

PROPERTY TABLE C MAT= 3 NUM. POINTS= 24
 SLOC= 19 645.3200 665.1200 682.0700 694.5200
 724.0700 761.9500

PROPERTY TABLE C MAT= 3 NUM. POINTS= 30
 SLOC= 25 806.3100 888.6000 1095.040 1638.780
 808.6800 736.9000

Define K for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800 565.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***

SLOC= 19 593.3300 621.1100 648.8900
676.6700 704.4400 732.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 27 ***
SLOC= 25 760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 6
SLOC= 1 12.29000 12.63000 13.15000 13.67000
14.02000 14.54000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 12
SLOC= 7 14.88000 15.40000 15.75000 16.10000
16.61000 16.96000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 18
SLOC= 13 17.31000 17.65000 18.00000 18.52000
18.86000 19.21000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 24
SLOC= 19 19.73000 20.08000 20.42000 20.94000
21.46000 21.98000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 27
SLOC= 25 22.33000 23.02000 23.54000

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 93.33000 121.1100 148.8900
176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 260.0000 287.7800 315.5600
343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 17 ***
SLOC= 13 426.6700 454.4400 482.2200
510.0000 537.7800

PROPERTY TABLE C MAT= 2 NUM. POINTS= 6
SLOC= 1 460.6900 477.4200 501.0200 504.6500
498.1200 520.4500

PROPERTY TABLE C MAT= 2 NUM. POINTS= 12
SLOC= 7 536.8800 559.8500 576.8300 576.2100
581.6800 598.2000

PROPERTY TABLE C MAT= 2 NUM. POINTS= 17
SLOC= 13 619.5800 636.7600 654.2000 678.2500
696.2900

Define K for materials 4, 5, 6

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 .0000000E+00 10.00000 20.00000
30.00000 40.00000 50.00000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 60.00000 70.00000 80.00000
90.00000 100.0000 110.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 120.0000 130.0000 140.0000
150.0000 160.0000 170.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 180.0000 190.0000 200.0000
 210.0000 220.0000 230.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
 SLOC= 25 240.0000 250.0000 260.0000
 270.0000 280.0000 290.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 36 ***
 SLOC= 31 300.0000 310.0000 320.0000
 330.0000 340.0000 350.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 42 ***
 SLOC= 37 360.0000 370.0000 380.0000
 390.0000 400.0000 410.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 48 ***
 SLOC= 43 420.0000 430.0000 440.0000
 450.0000 460.0000 470.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 50 ***
 SLOC= 48 480.0000 490.0000 500.0000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 6
 SLOC= 1 8.720000 8.540000 8.360000 8.190000
 8.030000 7.870000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 12
 SLOC= 7 7.720000 7.580000 7.440000 7.310000
 7.180000 7.050000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 18
 SLOC= 13 6.930000 6.820000 6.700000 6.600000
 6.490000 6.390000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 24
 SLOC= 19 6.290000 6.190000 6.100000 6.010000
 5.920000 5.840000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 30
 SLOC= 25 5.760000 5.680000 5.600000 5.520000
 5.450000 5.380000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 36
 SLOC= 31 5.310000 5.240000 5.180000 5.110000
 5.050000 4.990000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 42
 SLOC= 37 4.930000 4.870000 4.810000 4.760000
 4.700000 4.650000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 48
 SLOC= 43 4.600000 4.550000 4.500000 4.450000
 4.400000 4.350000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 50
 SLOC= 48 4.310000 4.270000 4.220000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 6
 SLOC= 1 12.29000 12.44000 12.58000 12.72000
 12.87000 13.01000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 12
 SLOC= 7 13.15000 13.28000 13.42000 13.55000
 13.69000 13.82000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 18
 SLOC= 13 13.95000 14.08000 14.21000 14.34000
 14.46000 14.59000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 24
 SLOC= 19 14.72000 14.84000 14.96000 15.09000
 15.21000 15.33000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 30
 SLOC= 25 15.45000 15.57000 15.69000 15.81000
 15.93000 16.05000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 36
 SLOC= 31 16.17000 16.29000 16.40000 16.52000
 16.64000 16.76000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 42
 SLOC= 37 16.88000 16.99000 17.11000 17.23000
 17.35000 17.46000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 48
 SLOC= 43 17.58000 17.70000 17.82000 17.94000
 18.06000 18.18000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 50
 SLOC= 48 18.30000 18.42000 18.54000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 6
 SLOC= 1 1.940000 1.940000 1.940000 1.940000
 1.940000 1.940000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 12
 SLOC= 7 1.940000 1.950000 1.950000 1.950000
 1.950000 1.950000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 18
 SLOC= 13 1.950000 1.950000 1.960000 1.960000
 1.960000 1.960000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 24
 SLOC= 19 1.960000 1.970000 1.970000 1.970000
 1.970000 1.980000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 30
 SLOC= 25 1.980000 1.980000 1.980000 1.990000
 1.990000 1.990000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 36
 SLOC= 31 2.000000 2.000000 2.000000 2.010000
 2.010000 2.010000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 42
 SLOC= 37 2.020000 2.020000 2.020000 2.030000
 2.030000 2.030000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.040000 2.050000
 2.050000 2.060000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 50
 SLOC= 48 2.060000 2.060000 2.070000

Define p, K, C for materials 7, 8, 9, -10

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -13.15000 6.850000 26.85000
 76.85000 126.8500 176.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 226.8500 276.8500 326.8500
 376.8500 426.8500 476.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 15 ***
 SLOC= 13 526.8500 626.8500 726.8500

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1875000 .1750000 .1625000 .1422000
 .1219000 .1097000

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 12
 SLOC= 7 .9750000E-01 .9060000E-01 .8360000E-01 .7670000E-01
 .6970000E-01 .6620000E-01

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 15
 SLOC= 13 .6270000E-01 .5580000E-01 .4880000E-01

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1370000 .1450000 .1520000 .1700000
 .1870000 .2040000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 12
 SLOC= 7 .2200000 .2360000 .2520000 .2640000
 .2780000 .2910000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 15
 SLOC= 13 .3040000 .3300000 .3540000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 6
 SLOC= 1 1.348000 1.254700 1.161400 .9950000
 .8711000 .7740000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 12
 SLOC= 7 .6964000 .6329000 .5804000 .5356000
 .4975000 .4643000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 15
 SLOC= 13 .4354000 .3868000 .3482000

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2500000E-01 .2600000E-01 .3000000E-01
 .3400000E-01 .3700000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12
 SLOC= 7 .4100000E-01 .4400000E-01 .4700000E-01 .5000000E-01
 .5200000E-01 .5500000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 15
 SLOC= 13 .5700000E-01 .6200000E-01 .6700000E-01

PROPERTY TABLE C MAT= 8 NUM. POINTS= 6
 SLOC= 1 1006.200 1006.600 1007.000 1009.000
 1014.000 1021.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 12
 SLOC= 7 1030.000 1040.000 1051.000 1063.000
 1075.000 1087.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 15
 SLOC= 13 1099.000 1121.000 1141.000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 6
 SLOC= 1 1.303700 1.213500 1.123300 .9625000
 .8425000 .7485000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12
 SLOC= 7 .6739000 .6124000 .5615000 .5214000
 .4812000 .4512000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 15
 SLOC= 13 .4211000 .3743000 .3368000

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2400000E-01 .2600000E-01 .2900000E-01
 .3300000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12
 SLOC= 7 .3900000E-01 .4200000E-01 .4500000E-01 .4700000E-01
 .5000000E-01 .5200000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 15
 SLOC= 13 .5500000E-01 .6000000E-01 .6500000E-01

PROPERTY TABLE C MAT= 9 NUM. POINTS= 6
 SLOC= 1 1041.800 1041.400 1041.000 1042.000
 1045.000 1050.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 12
 SLOC= 7 1056.000 1065.000 1075.000 1086.500
 1098.000 1159.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 15
 SLOC= 13 1220.000 1146.000 1167.000

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 6
 SLOC= 1 .1700000E-01 .1700000E-01 .1800000E-01 .2100000E-01
 .2300000E-01 .2500000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12
 SLOC= 7 .2700000E-01 .2800000E-01 .3000000E-01 .3200000E-01
 .3400000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 15
 SLOC= 13 .3700000E-01 .4100000E-01 .4400000E-01

Define K and C for material 12

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -73.15000 26.85000 126.8500
 326.8500 526.8500 726.8500

PROPERTY TABLE KXX MAT= 12 NUM. POINTS= 6
 SLOC= 1 413.0000 401.0000 393.0000 379.0000
 366.0000 352.0000

PROPERTY TABLE C MAT= 12 NUM. POINTS= 6
 SLOC= 1 356.0000 385.0000 397.0000 417.0000
 433.0000 451.0000

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***
 SLOC= 1 23.00000 50.00000 100.0000
 150.0000 200.0000

PROPERTY TABLE KXX MAT= 13 NUM. POINTS= 5
 SLOC= 1 182.5600 190.1700 199.2200 202.9100
 203.7200

PROPERTY TABLE C MAT= 13 NUM. POINTS= 5
 SLOC= 1 868.0000 903.0000 946.0000 976.0000
 998.0000

 ** End of Material Property List **

 Read in single assembly heat loads

Calculate the volumetric heat generation
(Assembly time is in years, FUEL is in seconds)

```
/INPUT FILE= snf1048.dat LINE= 0
*****
** History of SNF Assembly Heat Generation Rates **
** Output of PHIA, SCSI: B00000000-01717-1200-3000X Rev.00B **
**
** Executable File Name: PHIA00B.EXE **
** Output File Name: snf1048.dat **
** Execution Date: 02/24/95 **
** Start Age (years): 10.0 **
** Decay Period (years): 10000 **
** Enrichment (percent): 4.20 **
** Burnup (MWd/MTU): 48086 **
** Assembly Type: PWR **
** SNF U Mass (MTU/assy): 0.464 **
**
** ASSY(#,1) is the SNF assembly heat in Watts. **
** ASSY(#,0) is the time post emplacement in years. **
*****
```

PARAMETER ASSY(1,1) =	850.0100 848.4600	849.6200 848.0800	849.2300	848.8500
PARAMETER ASSY(7,1) =	847.6900 846.1600	847.3100 844.2600	846.9300	846.5400
PARAMETER ASSY(13,1) =	842.3700 834.9500	840.5000 833.1300	838.6300	836.7900
PARAMETER ASSY(19,1) =	831.3200 824.2000	829.5200 822.4500	827.7400	825.9600
PARAMETER ASSY(25,1) =	820.7200 813.8800	818.9900 799.0100	817.2800	815.5700
PARAMETER ASSY(31,1) =	785.0300 738.5700	772.2000 729.5500	760.0600	749.0400
PARAMETER ASSY(37,1) =	720.9500 683.8600	710.2700 676.0300	700.0700	691.8000
PARAMETER ASSY(43,1) =	668.5000 642.5500	661.1300 580.1800	654.0400	648.1900
PARAMETER ASSY(49,1) =	529.8600 380.7000	484.5200 352.1900	445.3600	410.5100
PARAMETER ASSY(55,1) =	327.7800 252.6500	305.8800 238.3100	286.2200	268.5700
PARAMETER ASSY(61,1) =	225.3500 185.0400	213.6600 130.6600	203.8500	193.7500
PARAMETER ASSY(67,1) =	105.0700 66.61000	90.10000 61.74000	80.32000	72.66000
PARAMETER ASSY(73,1) =	57.58000 44.98000	53.71000 42.50000	50.41000	47.54000
PARAMETER ASSY(79,1) =	40.31000 33.52000	38.35000 23.16000	36.59000	35.00000
PARAMETER ASSY(85,1) =	18.32000 12.84000	15.77000 12.37000	14.37000	13.53000
PARAMETER ASSY(91,1) =	11.96000 10.32000	11.47000 9.970000	11.04000	10.66000

PARAMETER ASSY(97,1) =	9.650000 8.610000	9.360000	9.090000	8.840000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01 .1000000	.7000000E-01 .1500000	.8000000E-01	.9000000E-01
PARAMETER ASSY(13,0) =	.2000000 .4000000	.2500000 .4500000	.3000000	.3500000
PARAMETER ASSY(19,0) =	.5000000 .7000000	.5500000 .7500000	.6000000	.6500000
PARAMETER ASSY(25,0) =	.8000000 1.000000	.8500000 1.500000	.9000000	.9500000
PARAMETER ASSY(31,0) =	2.000000 4.000000	2.500000 4.500000	3.000000	3.500000
PARAMETER ASSY(37,0) =	5.000000 7.000000	5.500000 7.500000	6.000000	6.500000
PARAMETER ASSY(43,0) =	8.000000 10.00000	8.500000 15.00000	9.000000	9.500000
PARAMETER ASSY(49,0) =	20.00000 40.00000	25.00000 45.00000	30.00000	35.00000
PARAMETER ASSY(55,0) =	50.00000 70.00000	55.00000 75.00000	60.00000	65.00000
PARAMETER ASSY(61,0) =	80.00000 100.0000	85.00000 150.0000	90.00000	95.00000
PARAMETER ASSY(67,0) =	200.0000 400.0000	250.0000 450.0000	300.0000	350.0000
PARAMETER ASSY(73,0) =	500.0000 700.0000	550.0000 750.0000	600.0000	650.0000
PARAMETER ASSY(79,0) =	800.0000 1000.000	850.0000 1500.000	900.0000	950.0000
PARAMETER ASSY(85,0) =	2000.000 4000.000	2500.000 4500.000	3000.000	3500.000
PARAMETER ASSY(91,0) =	5000.000 7000.000	5500.000 7500.000	6000.000	6500.000
PARAMETER ASSY(97,0) =	8000.000 10000.00	8500.000	9000.000	9500.000

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
 FACTOR ON FIRST VECTOR PARAMETER = 1.0000
 FACTOR ON SECOND VECTOR PARAMETER= 1.0000
 FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)
 INPUT MATRIX= ASSY(1,0)
 INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
 RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
 FACTOR ON FIRST VECTOR PARAMETER = 1.0000
 FACTOR ON SECOND VECTOR PARAMETER= 1.0000

FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN
 FUEL(1) = COPY ASSY(1)
 SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000
 VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
 SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
 SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
 SLOC= 1 274.0000
 Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
 SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
 SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1
 SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2
 SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Construct geometry for Disposal Container

Define center and axis keypoints for waste package

Also, create placeholder keypoints and lines

(K's 1,2,3,4,5,6,7,8)

(L's 1,2,3,4)

KEYPOINT 1 X,Y,Z= .000000E+00 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 2 X,Y,Z= .000000E+00 .000000E+00 1.00000 IN CSYS= 0
 KEYPOINT 3 X,Y,Z= .000000E+00 .000000E+00 1.30000 IN CSYS= 0
 KEYPOINT 4 X,Y,Z= .000000E+00 .000000E+00 1.40000 IN CSYS= 0
 KEYPOINT 5 X,Y,Z= .000000E+00 .000000E+00 1.50000 IN CSYS= 0
 KEYPOINT 6 X,Y,Z= .000000E+00 .000000E+00 1.60000 IN CSYS= 0
 KEYPOINT 7 X,Y,Z= .000000E+00 .000000E+00 1.70000 IN CSYS= 0
 KEYPOINT 8 X,Y,Z= .000000E+00 .000000E+00 1.80000 IN CSYS= 0

LINE CONNECTS KEYPOINTS 3 4
 LINE NO.= 1 KP1= 3 TAN1= .0000 .0000 -1.0000
 KP2= 4 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 4 5
 LINE NO.= 2 KP1= 4 TAN1= .0000 .0000 -1.0000
 KP2= 5 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 5 6
 LINE NO.= 3 KP1= 5 TAN1= .0000 .0000 -1.0000
 KP2= 6 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 6 7
 LINE NO.= 4 KP1= 6 TAN1= .0000 .0000 -1.0000
 KP2= 7 TAN2= .0000 .0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT 9 X,Y,Z= .000000E+00 -.814500 .000000E+00 IN CSYS= 0
 KEYPOINT 10 X,Y,Z= .814500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 11 X,Y,Z= .000000E+00 .814500 .000000E+00 IN CSYS= 0
 KEYPOINT 12 X,Y,Z= .000000E+00 -.714500 .000000E+00 IN CSYS= 0
 KEYPOINT 13 X,Y,Z= .714500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 14 X,Y,Z= .000000E+00 .714500 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 10 13
 LINE NO.= 5 KP1= 10 TAN1= 1.0000 .0000 .0000
 KP2= 13 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 6 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 7 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 8 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .71450

LINE NO.= 9 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT	15	X,Y,Z=	.000000E+00	.694500	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.116750	.684616	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.126750	.682836	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.360250	.593759	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.369750	.587890	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.587890	.369750	.000000E+00	IN CSYS= 0
KEYPOINT	21	X,Y,Z=	.593759	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.682836	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.684616	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.694500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.684616	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.682836	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.593759	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.587890	-.369750	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.369750	-.587890	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.360250	-.593759	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.126750	-.682836	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.116750	-.684616	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.000000E+00	-.694500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000

KP2=	15	TAN2=	.0000	-1.0000	.0000
ARC BETWEEN KEYPOINTS 16 AND 15 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	13	KP1=	16	TAN1=	.9858
		KP2=	15	TAN2=	-1.0000
					.0000
					.0000
ARC BETWEEN KEYPOINTS 17 AND 16 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	14	KP1=	17	TAN1=	.9832
		KP2=	16	TAN2=	-.9858
					.1681
					.0000
ARC BETWEEN KEYPOINTS 18 AND 17 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	15	KP1=	18	TAN1=	.8549
		KP2=	17	TAN2=	-.9832
					.1825
					.0000
ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	16	KP1=	19	TAN1=	.8465
		KP2=	18	TAN2=	-.8549
					.5187
					.0000
ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	17	KP1=	20	TAN1=	.5324
		KP2=	19	TAN2=	-.8465
					.5324
					.0000
ARC BETWEEN KEYPOINTS 21 AND 20 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	18	KP1=	21	TAN1=	.5187
		KP2=	20	TAN2=	-.5324
					.8465
					.0000
ARC BETWEEN KEYPOINTS 22 AND 21 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	19	KP1=	22	TAN1=	.1825
		KP2=	21	TAN2=	-.5187
					.9832
					.0000
ARC BETWEEN KEYPOINTS 23 AND 22 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	20	KP1=	23	TAN1=	.1681
		KP2=	22	TAN2=	-.1825
					.9832
					.0000
ARC BETWEEN KEYPOINTS 24 AND 23 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	21	KP1=	24	TAN1=	.0000
		KP2=	23	TAN2=	-.1681
					-1.0000
					.0000
ARC BETWEEN KEYPOINTS 25 AND 24 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	22	KP1=	25	TAN1=	-.1681
		KP2=	24	TAN2=	.0000
					-1.0000
					.0000
ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	23	KP1=	26	TAN1=	-.1825
		KP2=	25	TAN2=	.1681
					.9832
					.0000
ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	24	KP1=	27	TAN1=	-.5187
		KP2=	26	TAN2=	.1825
					.9832
					.0000
ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	25	KP1=	28	TAN1=	-.5324
		KP2=	27	TAN2=	.5187
					.8465
					.0000
ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	26	KP1=	29	TAN1=	-.8465
					-.5324
					.0000

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                KP2=      28 TAN2=      .5324      .8465      .0000
ARC BETWEEN KEYPOINTS      30 AND      29 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      27 KP1=      30 TAN1=      -.8549      -.5187      .0000
                KP2=      29 TAN2=      .8465      .5324      .0000

ARC BETWEEN KEYPOINTS      31 AND      30 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      28 KP1=      31 TAN1=      -.9832      -.1825      .0000
                KP2=      30 TAN2=      .8549      .5187      .0000

ARC BETWEEN KEYPOINTS      32 AND      31 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      29 KP1=      32 TAN1=      -.9858      -.1681      .0000
                KP2=      31 TAN2=      .9832      .1825      .0000

ARC BETWEEN KEYPOINTS      33 AND      32 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      30 KP1=      33 TAN1=      -1.0000      .0000      .0000
                KP2=      32 TAN2=      .9858      .1681      .0000

LINE CONNECTS KEYPOINTS      33      12
LINE NO.=      31 KP1=      33 TAN1=      .0000      1.0000      .0000
                KP2=      12 TAN2=      .0000      -1.0000      .0000

LINE CONNECTS KEYPOINTS      24      13
LINE NO.=      32 KP1=      24 TAN1=      -1.0000      .0000      .0000
                KP2=      13 TAN2=      1.0000      .0000      .0000

SELECT          FOR ITEM=LINE COMPONENT=
IN RANGE      12 TO      21 STEP      1

      10 LINES (OF      32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT    FOR ITEM=LINE COMPONENT=
IN RANGE      9 TO      9 STEP      1

      11 LINES (OF      32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT    FOR ITEM=LINE COMPONENT=
IN RANGE      32 TO      32 STEP      1

      12 LINES (OF      32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
LINE LIST = ALL SELECTED LINES
(TRAVERSED IN SAME DIRECTION AS LINE      9)

AREA NUMBER =      3

SELECT          FOR ITEM=LINE COMPONENT=
IN RANGE      22 TO      31 STEP      1

      10 LINES (OF      32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT    FOR ITEM=LINE COMPONENT=
IN RANGE      8 TO      8 STEP      1

      11 LINES (OF      32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT    FOR ITEM=LINE COMPONENT=
IN RANGE      32 TO      32 STEP      1

      12 LINES (OF      32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
LINE LIST = ALL SELECTED LINES
(TRAVERSED IN SAME DIRECTION AS LINE      8)

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AREA NUMBER = 4

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 32 STEP 1

32 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides

(K's 34,35,36,37)

(L's 33,34,35,36,37,38,39,40,41,42)

(A's 5,6,7,8,9,10)

top guide

KEYPOINT 34 X,Y,Z= .360250 .360250 .000000E+00 IN CSYS= 0

KEYPOINT 35 X,Y,Z= .369750 .369750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 19 35

LINE NO.= 33 KP1= 19 TAN1= .0000 1.0000 .0000
KP2= 35 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 35 20

LINE NO.= 34 KP1= 35 TAN1= -1.0000 .0000 .0000
KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 21 34

LINE NO.= 35 KP1= 21 TAN1= 1.0000 .0000 .0000
KP2= 34 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 18

LINE NO.= 36 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 18 TAN2= .0000 1.0000 .0000

bottom guide

KEYPOINT 36 X,Y,Z= .369750 -.369750 .000000E+00 IN CSYS= 0

KEYPOINT 37 X,Y,Z= .360250 -.360250 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 28 36

LINE NO.= 37 KP1= 28 TAN1= 1.0000 .0000 .0000
KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 36 29

LINE NO.= 38 KP1= 36 TAN1= .0000 1.0000 .0000
KP2= 29 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 37

LINE NO.= 39 KP1= 30 TAN1= .0000 -1.0000 .0000
KP2= 37 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 37 27

LINE NO.= 40 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 27 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 35

LINE NO.= 41 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 35 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 37 36

LINE NO.= 42 KP1= 37 TAN1= -.7071 -.7071 .0000
KP2= 36 TAN2= .7071 .7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES

LINE LIST = 17 33 34

(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES
 LINE LIST = 26 37 38
 (TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 6
 Guide steel

DEFINE AREA BY LIST OF LINES
 LINE LIST = 16 33 41 36
 (TRAVERSED IN SAME DIRECTION AS LINE 16)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES
 LINE LIST = 18 35 41 34
 (TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES
 LINE LIST = 25 37 42 40
 (TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES
 LINE LIST = 27 39 42 38
 (TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 10

Define thermal shunts

(K's 38,39,40,41,42,43,44,45,46,47,48,49,50)

(51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)

(L's 43,44,45,46,47,48,49)

(50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)

(67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)

(84,85,86,87,88,89,90)

(A's 11 - 27)

top horizontal thermal shunt

KEYPOINT	38	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.000000E+00	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.116750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.126750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	45	X,Y,Z=	.360250	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	46	X,Y,Z=	.593750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	47	X,Y,Z=	.593750	.126750	.000000E+00	IN CSYS= 0
bottom horizontal thermal shunt						
KEYPOINT	48	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.000000E+00	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.116750	-.126750	.000000E+00	IN CSYS= 0

KEYPOINT	52	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	53	X,Y,Z=	.126750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.360250	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	56	X,Y,Z=	.593750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.593750	-.126750	.000000E+00	IN CSYS= 0
		right vertical thermal shunt				
KEYPOINT	58	X,Y,Z=	.116750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.126750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	60	X,Y,Z=	.116750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.126750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.116750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.126750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.116750	-.593750	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.126750	-.593750	.000000E+00	IN CSYS= 0
		Lines; shunt widths, top, bottom, then vertical: (43-60)				

LINE CONNECTS KEYPOINTS	38	39			
LINE NO.= 43	KP1= 38	TAN1=	.0000	-1.0000	.0000
	KP2= 39	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	40	41			
LINE NO.= 44	KP1= 40	TAN1=	.0000	-1.0000	.0000
	KP2= 41	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	42	43			
LINE NO.= 45	KP1= 42	TAN1=	.0000	-1.0000	.0000
	KP2= 43	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	44	45			
LINE NO.= 46	KP1= 44	TAN1=	.0000	-1.0000	.0000
	KP2= 45	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	46	47			
LINE NO.= 47	KP1= 46	TAN1=	.0000	-1.0000	.0000
	KP2= 47	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	48	49			
LINE NO.= 48	KP1= 48	TAN1=	.0000	1.0000	.0000
	KP2= 49	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	50	51			
LINE NO.= 49	KP1= 50	TAN1=	.0000	1.0000	.0000
	KP2= 51	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	52	53			
LINE NO.= 50	KP1= 52	TAN1=	.0000	1.0000	.0000
	KP2= 53	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	54	55			
LINE NO.= 51	KP1= 54	TAN1=	.0000	1.0000	.0000
	KP2= 55	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	56	57			
LINE NO.= 52	KP1= 56	TAN1=	.0000	1.0000	.0000
	KP2= 57	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	58	59			
LINE NO.= 53 KP1=	58	TAN1=	-1.0000	.0000	.0000
KP2=	59	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	60	61			
LINE NO.= 54 KP1=	60	TAN1=	-1.0000	.0000	.0000
KP2=	61	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	41	43			
LINE NO.= 55 KP1=	41	TAN1=	-1.0000	.0000	.0000
KP2=	43	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	40	42			
LINE NO.= 56 KP1=	40	TAN1=	-1.0000	.0000	.0000
KP2=	42	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	50	52			
LINE NO.= 57 KP1=	50	TAN1=	-1.0000	.0000	.0000
KP2=	52	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	51	53			
LINE NO.= 58 KP1=	51	TAN1=	-1.0000	.0000	.0000
KP2=	53	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	62	63			
LINE NO.= 59 KP1=	62	TAN1=	-1.0000	.0000	.0000
KP2=	63	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	64	65			
LINE NO.= 60 KP1=	64	TAN1=	-1.0000	.0000	.0000
KP2=	65	TAN2=	1.0000	.0000	.0000
Lines; shunt edges, top, bottom, then vertical: (61-90)					
LINE CONNECTS KEYPOINTS	39	41			
LINE NO.= 61 KP1=	39	TAN1=	-1.0000	.0000	.0000
KP2=	41	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	40	38			
LINE NO.= 62 KP1=	40	TAN1=	1.0000	.0000	.0000
KP2=	38	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	43	45			
LINE NO.= 63 KP1=	43	TAN1=	-1.0000	.0000	.0000
KP2=	45	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	44	42			
LINE NO.= 64 KP1=	44	TAN1=	1.0000	.0000	.0000
KP2=	42	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	45	47			
LINE NO.= 65 KP1=	45	TAN1=	-1.0000	.0000	.0000
KP2=	47	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	46	44			
LINE NO.= 66 KP1=	46	TAN1=	1.0000	.0000	.0000
KP2=	44	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	47	22			
LINE NO.= 67 KP1=	47	TAN1=	-1.0000	.0000	.0000
KP2=	22	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	23	46			
LINE NO.= 68 KP1=	23	TAN1=	1.0000	.0000	.0000
KP2=	46	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	48	50			
LINE NO.= 69 KP1=	48	TAN1=	-1.0000	.0000	.0000
KP2=	50	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	51	49			
LINE NO.= 70 KP1=	51	TAN1=	1.0000	.0000	.0000
KP2=	49	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	52	54			
LINE NO.= 71 KP1=	52	TAN1=	-1.0000	.0000	.0000
KP2=	54	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	55	53			
LINE NO.= 72 KP1=	55	TAN1=	1.0000	.0000	.0000
KP2=	53	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	54	56			
LINE NO.= 73 KP1=	54	TAN1=	-1.0000	.0000	.0000
KP2=	56	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	57	55			
LINE NO.= 74 KP1=	57	TAN1=	1.0000	.0000	.0000
KP2=	55	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	56	25			
LINE NO.= 75 KP1=	56	TAN1=	-1.0000	.0000	.0000
KP2=	25	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	26	57			
LINE NO.= 76 KP1=	26	TAN1=	1.0000	.0000	.0000
KP2=	57	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	58	16			
LINE NO.= 77 KP1=	58	TAN1=	.0000	-1.0000	.0000
KP2=	16	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	17	59			
LINE NO.= 78 KP1=	17	TAN1=	.0000	1.0000	.0000
KP2=	59	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	60	58			
LINE NO.= 79 KP1=	60	TAN1=	.0000	-1.0000	.0000
KP2=	58	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	59	61			
LINE NO.= 80 KP1=	59	TAN1=	.0000	1.0000	.0000
KP2=	61	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	41	60			
LINE NO.= 81 KP1=	41	TAN1=	.0000	-1.0000	.0000
KP2=	60	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	61	43			
LINE NO.= 82 KP1=	61	TAN1=	.0000	1.0000	.0000
KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	50	40			
LINE NO.= 83 KP1=	50	TAN1=	.0000	-1.0000	.0000
KP2=	40	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	42	52			
LINE NO.= 84 KP1=	42	TAN1=	.0000	1.0000	.0000
KP2=	52	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	62	51			
LINE NO.= 85 KP1=	62	TAN1=	.0000	-1.0000	.0000
KP2=	51	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	53	63			
LINE NO.= 86 KP1=	53	TAN1=	.0000	1.0000	.0000
KP2=	63	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	64	62			
LINE NO.= 87 KP1=	64	TAN1=	.0000	-1.0000	.0000

KP2= 62 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 63 65

LINE NO.= 88 KP1= 63 TAN1= .0000 1.0000 .0000

KP2= 65 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 32 64

LINE NO.= 89 KP1= 32 TAN1= .0000 -1.0000 .0000

KP2= 64 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 65 31

LINE NO.= 90 KP1= 65 TAN1= .0000 1.0000 .0000

KP2= 31 TAN2= .0000 -1.0000 .0000

define areas for thermal shunts

DEFINE AREA BY LIST OF LINES

LINE LIST = 43 61 44 62

(TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

LINE LIST = 44 55 45 56

(TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

LINE LIST = 45 63 46 64

(TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

LINE LIST = 46 65 47 66

(TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES

LINE LIST = 47 67 20 68

(TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES

LINE LIST = 48 69 49 70

(TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES

LINE LIST = 49 57 50 58

(TRAVERSED IN SAME DIRECTION AS LINE 49)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES

LINE LIST = 50 71 51 72

(TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES

LINE LIST = 51 73 52 74

(TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES

LINE LIST = 52 75 23 76
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 14 77 53 78
(TRAVERSED IN SAME DIRECTION AS LINE 14)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 53 79 54 80
(TRAVERSED IN SAME DIRECTION AS LINE 53)

AREA NUMBER = 22

DEFINE AREA BY LIST OF LINES

LINE LIST = 54 81 55 82
(TRAVERSED IN SAME DIRECTION AS LINE 54)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES

LINE LIST = 56 83 57 84
(TRAVERSED IN SAME DIRECTION AS LINE 56)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 58 85 59 86
(TRAVERSED IN SAME DIRECTION AS LINE 58)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 59 87 60 88
(TRAVERSED IN SAME DIRECTION AS LINE 59)

AREA NUMBER = 26

DEFINE AREA BY LIST OF LINES

LINE LIST = 60 89 29 90
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 27

Define shell gaps at the exterior of the tube array
(K's 66 - 67)
(L's 91 - 99)
(A's 28 - 34)

KEYPOINT 66 X,Y,Z= .000000E+00 .593750 .000000E+00 IN CSYS= 0

KEYPOINT 67 X,Y,Z= .000000E+00 -.593750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 15 66
LINE NO.= 91 KP1= 15 TAN1= .0000 1.0000 .0000
KP2= 66 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 66 58
LINE NO.= 92 KP1= 66 TAN1= -1.0000 .0000 .0000
KP2= 58 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 59 18
LINE NO.= 93 KP1= 59 TAN1= -1.0000 .0000 .0000
KP2= 18 TAN2= 1.0000 .0000 .0000

```

LINE CONNECTS KEYPOINTS      21   47
LINE NO.=   94 KP1=   21 TAN1=   .0000   1.0000   .0000
              KP2=   47 TAN2=   .0000  -1.0000   .0000

LINE CONNECTS KEYPOINTS      46   56
LINE NO.=   95 KP1=   46 TAN1=   .0000   1.0000   .0000
              KP2=   56 TAN2=   .0000  -1.0000   .0000

LINE CONNECTS KEYPOINTS      57   27
LINE NO.=   96 KP1=   57 TAN1=   .0000   1.0000   .0000
              KP2=   27 TAN2=   .0000  -1.0000   .0000

LINE CONNECTS KEYPOINTS      30   65
LINE NO.=   97 KP1=   30 TAN1=   1.0000   .0000   .0000
              KP2=   65 TAN2=  -1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      64   67
LINE NO.=   98 KP1=   64 TAN1=   1.0000   .0000   .0000
              KP2=   67 TAN2=  -1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      67   33
LINE NO.=   99 KP1=   67 TAN1=   .0000   1.0000   .0000
              KP2=   33 TAN2=   .0000  -1.0000   .0000

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   13   91   92   77
(TRAVERSED IN SAME DIRECTION AS LINE   13)

```

AREA NUMBER = 28

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   15   78   93
(TRAVERSED IN SAME DIRECTION AS LINE   15)

```

AREA NUMBER = 29

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   19   94   67
(TRAVERSED IN SAME DIRECTION AS LINE   19)

```

AREA NUMBER = 30

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   21   68   95   75   22
(TRAVERSED IN SAME DIRECTION AS LINE   21)

```

AREA NUMBER = 31

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   24   76   96
(TRAVERSED IN SAME DIRECTION AS LINE   24)

```

AREA NUMBER = 32

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   28   97   90
(TRAVERSED IN SAME DIRECTION AS LINE   28)

```

AREA NUMBER = 33

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   30   89   98   99
(TRAVERSED IN SAME DIRECTION AS LINE   30)

```

AREA NUMBER = 34

```

*****
Define center half-tube
(K's 68-75)
(L's 100-110)

```

(A's 35-38)

KEYPOINT	68	X,Y,Z=	.000000E+00	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.111750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.000000E+00	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.111750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	72	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	70	68			
LINE NO.= 100	KP1= 70	TAN1=	.0000	-1.0000	.0000
	KP2= 68	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	70	74			
LINE NO.= 101	KP1= 70	TAN1=	.0000	1.0000	.0000
	KP2= 74	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	68	72			
LINE NO.= 102	KP1= 68	TAN1=	.0000	-1.0000	.0000
	KP2= 72	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	71	75			
LINE NO.= 103	KP1= 71	TAN1=	-.7071	.7071	.0000
	KP2= 75	TAN2=	.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	69	73			
LINE NO.= 104	KP1= 69	TAN1=	-.7071	-.7071	.0000
	KP2= 73	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	75	74			
LINE NO.= 105	KP1= 75	TAN1=	1.0000	.0000	.0000
	KP2= 74	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	71	70			
LINE NO.= 106	KP1= 71	TAN1=	1.0000	.0000	.0000
	KP2= 70	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	68	69			
LINE NO.= 107	KP1= 68	TAN1=	-1.0000	.0000	.0000
	KP2= 69	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	72	73			
LINE NO.= 108	KP1= 72	TAN1=	-1.0000	.0000	.0000
	KP2= 73	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	69	71			
LINE NO.= 109	KP1= 69	TAN1=	.0000	1.0000	.0000
	KP2= 71	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	73	75			
LINE NO.= 110	KP1= 73	TAN1=	.0000	1.0000	.0000
	KP2= 75	TAN2=	.0000	-1.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 100 106 109 107
 (TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES

LINE LIST = 101 105 103 106

(TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 109 103 110 104

(TRAVERSED IN SAME DIRECTION AS LINE 109)

AREA NUMBER = 37

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 107 104 108

(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 38

Define center full-tube

(K's 76 - 83)

(L's 111 - 122)

(A's 39 - 43)

KEYPOINT	76	X,Y,Z=	.131750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.355250	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	78	X,Y,Z=	.131750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	79	X,Y,Z=	.355250	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	80	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	81	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	82	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	83	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	78	82			
LINE NO.= 111	KP1= 78	TAN1=	.7071	.7071	.0000
	KP2= 82	TAN2=	-.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	76	80			
LINE NO.= 112	KP1= 76	TAN1=	.7071	-.7071	.0000
	KP2= 80	TAN2=	-.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	79	83			
LINE NO.= 113	KP1= 79	TAN1=	-.7071	.7071	.0000
	KP2= 83	TAN2=	.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	77	81			
LINE NO.= 114	KP1= 77	TAN1=	-.7071	-.7071	.0000
	KP2= 81	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	83	82			
LINE NO.= 115	KP1= 83	TAN1=	1.0000	.0000	.0000
	KP2= 82	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	79	78			
LINE NO.= 116	KP1= 79	TAN1=	1.0000	.0000	.0000
	KP2= 78	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	76	77			
LINE NO.= 117	KP1= 76	TAN1=	-1.0000	.0000	.0000
	KP2= 77	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	80	81			
LINE NO.= 118	KP1= 80	TAN1=	-1.0000	.0000	.0000
	KP2= 81	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	82	80			
-------------------------	----	----	--	--	--

```

LINE NO.= 119 KP1= 82 TAN1= .0000 -1.0000 .0000
              KP2= 80 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 78 76
LINE NO.= 120 KP1= 78 TAN1= .0000 -1.0000 .0000
              KP2= 76 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 77 79
LINE NO.= 121 KP1= 77 TAN1= .0000 1.0000 .0000
              KP2= 79 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 81 83
LINE NO.= 122 KP1= 81 TAN1= .0000 1.0000 .0000
              KP2= 83 TAN2= .0000 -1.0000 .0000

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 120 116 121 117
(TRAVERSED IN SAME DIRECTION AS LINE 120)

```

AREA NUMBER = 39

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 119 111 120 112
(TRAVERSED IN SAME DIRECTION AS LINE 119)

```

AREA NUMBER = 40

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 111 115 113 116
(TRAVERSED IN SAME DIRECTION AS LINE 111)

```

AREA NUMBER = 41

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 121 113 122 114
(TRAVERSED IN SAME DIRECTION AS LINE 121)

```

AREA NUMBER = 42

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 112 117 114 118
(TRAVERSED IN SAME DIRECTION AS LINE 112)

```

AREA NUMBER = 43

```

Set element shapes and sizes for tubes
14x14 mesh in fuel with 2
divisions per tube layer

```

```

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

```

DEFAULT ELEMENT DIVISIONS PER LINE = 1

```

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    115 TO      122 STEP      1

```

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE    109 TO      110 STEP      1

```

10 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE    100 TO      100 STEP      1

```

11 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

```
TO NDIV = 14, SPACING RATIO = 1.000

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    105 TO      108 STEP      1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    101 TO      104 STEP      1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE    111 TO      114 STEP      1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

ALL SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE    1 TO      122 STEP      1

122 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.
```

Mesh areas
first fuel, then stainless tubes

```
MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 35 TO 35 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 120
MAXIMUM ELEMENT NUMBER = 98

GENERATE NODES AND ELEMENTS
IN AREAS 39 TO 39 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 345
MAXIMUM ELEMENT NUMBER = 294

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 36 TO 38 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 403
MAXIMUM ELEMENT NUMBER = 350

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 515
MAXIMUM ELEMENT NUMBER = 462
```

Copy tube mesh

center half tube above and below

(A's 44 - 47)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 693
 MAXIMUM ELEMENT NUMBER = 616

(A's 48 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 871
 MAXIMUM ELEMENT NUMBER = 770

(A's 52 - 55)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1049
 MAXIMUM ELEMENT NUMBER = 924

(A's 56 - 59)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1227
 MAXIMUM ELEMENT NUMBER = 1078

center full tube side, above, and below
 (A's 60 - 64 = Side)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1564
 MAXIMUM ELEMENT NUMBER = 1386

(A's 65 - 69 = up 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1901
 MAXIMUM ELEMENT NUMBER = 1694

(A's 70 - 74 = up 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2238
 MAXIMUM ELEMENT NUMBER = 2002

(A's 75 - 79 = down 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2575
 MAXIMUM ELEMENT NUMBER = 2310

(A's 80 - 84 = down 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1

DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2912
 MAXIMUM ELEMENT NUMBER = 2618
 center full tube get corners
 (A's 85 - 89 = up corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3249
 MAXIMUM ELEMENT NUMBER = 2926
 (A's 90 - 94 = down corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3586
 MAXIMUM ELEMENT NUMBER = 3234

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 814	USED FOR NODES	1214
NODE 680	USED FOR NODES	992
NODE 822	USED FOR NODES	1216
NODE 682	USED FOR NODES	1000
NODE 821	USED FOR NODES	1217
NODE 683	USED FOR NODES	999
NODE 820	USED FOR NODES	1218
NODE 684	USED FOR NODES	998
NODE 819	USED FOR NODES	1219
NODE 685	USED FOR NODES	997
NODE 818	USED FOR NODES	1220
NODE 686	USED FOR NODES	996
NODE 687	USED FOR NODES	995
NODE 817	USED FOR NODES	1221
NODE 816	USED FOR NODES	1186
NODE 652	USED FOR NODES	994
NODE 1791	USED FOR NODES	2127
NODE 2464	USED FOR NODES	2802
NODE 1876	USED FOR NODES	2170
NODE 2507	USED FOR NODES	2887
NODE 1877	USED FOR NODES	2169
NODE 2506	USED FOR NODES	2888
NODE 1878	USED FOR NODES	2168
NODE 2505	USED FOR NODES	2889
NODE 1879	USED FOR NODES	2167
NODE 2504	USED FOR NODES	2890
NODE 1880	USED FOR NODES	2166
NODE 2503	USED FOR NODES	2891
NODE 1881	USED FOR NODES	2165
NODE 2502	USED FOR NODES	2892
NODE 1882	USED FOR NODES	2164
NODE 2501	USED FOR NODES	2893
NODE 1883	USED FOR NODES	2163
NODE 2500	USED FOR NODES	2894
NODE 1884	USED FOR NODES	2162
NODE 2499	USED FOR NODES	2895
NODE 1885	USED FOR NODES	2161
NODE 2498	USED FOR NODES	2896
NODE 1886	USED FOR NODES	2160
NODE 2497	USED FOR NODES	2897
NODE 1887	USED FOR NODES	2159
NODE 2496	USED FOR NODES	2898
NODE 1888	USED FOR NODES	2158
NODE 2495	USED FOR NODES	2899
NODE 2494	USED FOR NODES	2859
NODE 2522	USED FOR NODES	3476

3475

NODE	2535	USED FOR NODES	3477
NODE	2534	USED FOR NODES	3478
NODE	2533	USED FOR NODES	3479
NODE	2532	USED FOR NODES	3480
NODE	1820	USED FOR NODES	3138
NODE	1848	USED FOR NODES	2157 3139
NODE	1861	USED FOR NODES	3140
NODE	434	USED FOR NODES	1453
NODE	462	USED FOR NODES	1454
NODE	475	USED FOR NODES	1455
NODE	2523	USED FOR NODES	3489
NODE	2524	USED FOR NODES	3488
NODE	2525	USED FOR NODES	3487
NODE	2526	USED FOR NODES	3486
NODE	2527	USED FOR NODES	3485
NODE	2528	USED FOR NODES	3484
NODE	2529	USED FOR NODES	3483
NODE	2530	USED FOR NODES	3482
NODE	2531	USED FOR NODES	3481
NODE	474	USED FOR NODES	1456
NODE	473	USED FOR NODES	1457
NODE	472	USED FOR NODES	1458
NODE	471	USED FOR NODES	1459
NODE	470	USED FOR NODES	1460
NODE	469	USED FOR NODES	1461
NODE	468	USED FOR NODES	1462
NODE	467	USED FOR NODES	1463
NODE	463	USED FOR NODES	1467
NODE	466	USED FOR NODES	1464
NODE	464	USED FOR NODES	1466
NODE	465	USED FOR NODES	1465
NODE	1860	USED FOR NODES	3141
NODE	1859	USED FOR NODES	3142
NODE	1858	USED FOR NODES	3143
NODE	1857	USED FOR NODES	3144
NODE	1856	USED FOR NODES	3145
NODE	1855	USED FOR NODES	3146
NODE	1854	USED FOR NODES	3147
NODE	1853	USED FOR NODES	3148
NODE	1852	USED FOR NODES	3149
NODE	1851	USED FOR NODES	3150
NODE	1850	USED FOR NODES	3151
NODE	1849	USED FOR NODES	3152

*** WARNING *** CP= 12.080 TIME= 20:30:18
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 12.380 TIME= 20:30:18
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 12.390 TIME= 20:30:18
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 12.400 TIME= 20:30:18
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 12.410 TIME= 20:30:18

Keypoints 21 and 163 cannot be merged because:

(1) One or both of them belong to lines.

(2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

KEYPOINT	34 USED FOR KEYPOINT(S)	131	138	161
KEYPOINT	37 USED FOR KEYPOINT(S)	146	155	168
KEYPOINT	38 USED FOR KEYPOINT(S)	72		
KEYPOINT	39 USED FOR KEYPOINT(S)	88		
KEYPOINT	40 USED FOR KEYPOINT(S)	73		
KEYPOINT	41 USED FOR KEYPOINT(S)	89		
KEYPOINT	42 USED FOR KEYPOINT(S)	80		
KEYPOINT	43 USED FOR KEYPOINT(S)	128		
KEYPOINT	44 USED FOR KEYPOINT(S)	81	121	
KEYPOINT	45 USED FOR KEYPOINT(S)	130	160	
KEYPOINT	46 USED FOR KEYPOINT(S)	123		
KEYPOINT	47 USED FOR KEYPOINT(S)	162		
KEYPOINT	48 USED FOR KEYPOINT(S)	74		
KEYPOINT	49 USED FOR KEYPOINT(S)	99		
KEYPOINT	50 USED FOR KEYPOINT(S)	75		
KEYPOINT	51 USED FOR KEYPOINT(S)	98		
KEYPOINT	52 USED FOR KEYPOINT(S)	82		
KEYPOINT	53 USED FOR KEYPOINT(S)	145		
KEYPOINT	54 USED FOR KEYPOINT(S)	83	120	
KEYPOINT	55 USED FOR KEYPOINT(S)	147	169	
KEYPOINT	56 USED FOR KEYPOINT(S)	122		
KEYPOINT	57 USED FOR KEYPOINT(S)	171		
KEYPOINT	58 USED FOR KEYPOINT(S)	106		
KEYPOINT	59 USED FOR KEYPOINT(S)	137		
KEYPOINT	60 USED FOR KEYPOINT(S)	90	105	
KEYPOINT	61 USED FOR KEYPOINT(S)	129	136	
KEYPOINT	62 USED FOR KEYPOINT(S)	97	114	
KEYPOINT	63 USED FOR KEYPOINT(S)	144	153	
KEYPOINT	64 USED FOR KEYPOINT(S)	113		
KEYPOINT	65 USED FOR KEYPOINT(S)	152		
KEYPOINT	66 USED FOR KEYPOINT(S)	107		
KEYPOINT	67 USED FOR KEYPOINT(S)	112		
KEYPOINT	91 USED FOR KEYPOINT(S)	104		
KEYPOINT	96 USED FOR KEYPOINT(S)	115		
LINE	61 USED FOR LINE(S)	128		

*** WARNING ***

Due to merge, line 61 is now meshed.
LINE 62 USED FOR LINE(S) 108

CP= 12.630 TIME= 20:30:19

*** WARNING ***

Due to merge, line 62 is now meshed.
LINE 63 USED FOR LINE(S) 186

CP= 12.640 TIME= 20:30:19

*** WARNING ***

Due to merge, line 63 is now meshed.
LINE 64 USED FOR LINE(S) 118

CP= 12.640 TIME= 20:30:19

*** WARNING ***

Due to merge, line 64 is now meshed.
LINE 65 USED FOR LINE(S) 234

CP= 12.640 TIME= 20:30:19

*** WARNING ***

Due to merge, line 65 is now meshed.
LINE 66 USED FOR LINE(S) 178

CP= 12.640 TIME= 20:30:19

*** WARNING ***

Due to merge, line 66 is now meshed.
LINE 69 USED FOR LINE(S) 105

CP= 12.650 TIME= 20:30:19

*** WARNING ***

Due to merge, line 69 is now meshed.
LINE 70 USED FOR LINE(S) 144

CP= 12.650 TIME= 20:30:19

*** WARNING ***

Due to merge, line 70 is now meshed.

CP= 12.650 TIME= 20:30:19

LINE 71 USED FOR LINE(S) 115		
*** WARNING ***	CP=	12.660 TIME= 20:30:19
Due to merge, line 71 is now meshed.		
LINE 72 USED FOR LINE(S) 214		
*** WARNING ***	CP=	12.660 TIME= 20:30:19
Due to merge, line 72 is now meshed.		
LINE 73 USED FOR LINE(S) 174		
*** WARNING ***	CP=	12.660 TIME= 20:30:19
Due to merge, line 73 is now meshed.		
LINE 74 USED FOR LINE(S) 250		
*** WARNING ***	CP=	12.660 TIME= 20:30:19
Due to merge, line 74 is now meshed.		
LINE 79 USED FOR LINE(S) 152		
*** WARNING ***	CP=	12.670 TIME= 20:30:19
Due to merge, line 79 is now meshed.		
LINE 80 USED FOR LINE(S) 195		
*** WARNING ***	CP=	12.670 TIME= 20:30:19
Due to merge, line 80 is now meshed.		
LINE 81 USED FOR LINE(S) 130		
*** WARNING ***	CP=	12.670 TIME= 20:30:19
Due to merge, line 81 is now meshed.		
LINE 82 USED FOR LINE(S) 183		
*** WARNING ***	CP=	12.680 TIME= 20:30:19
Due to merge, line 82 is now meshed.		
LINE 83 USED FOR LINE(S) 110		
*** WARNING ***	CP=	12.680 TIME= 20:30:19
Due to merge, line 83 is now meshed.		
LINE 84 USED FOR LINE(S) 119		
*** WARNING ***	CP=	12.680 TIME= 20:30:19
Due to merge, line 84 is now meshed.		
LINE 85 USED FOR LINE(S) 141		
*** WARNING ***	CP=	12.680 TIME= 20:30:19
Due to merge, line 85 is now meshed.		
LINE 86 USED FOR LINE(S) 207		
*** WARNING ***	CP=	12.690 TIME= 20:30:19
Due to merge, line 86 is now meshed.		
LINE 87 USED FOR LINE(S) 163		
*** WARNING ***	CP=	12.690 TIME= 20:30:19
Due to merge, line 87 is now meshed.		
LINE 88 USED FOR LINE(S) 219		
*** WARNING ***	CP=	12.690 TIME= 20:30:19
Due to merge, line 88 is now meshed.		
LINE 92 USED FOR LINE(S) 155		
*** WARNING ***	CP=	12.700 TIME= 20:30:19
Due to merge, line 92 is now meshed.		
LINE 95 USED FOR LINE(S) 176		
*** WARNING ***	CP=	12.700 TIME= 20:30:19
Due to merge, line 95 is now meshed.		
LINE 98 USED FOR LINE(S) 161		
*** WARNING ***	CP=	12.700 TIME= 20:30:19
Due to merge, line 98 is now meshed.		
LINE 122 USED FOR LINE(S) 171		
LINE 133 USED FOR LINE(S) 150		

LINE 139 USED FOR LINE(S) 166
 LINE 188 USED FOR LINE(S) 231
 LINE 190 USED FOR LINE(S) 198
 LINE 210 USED FOR LINE(S) 226
 LINE 212 USED FOR LINE(S) 243

Create mesh in tube guides, thermal shunts
 Set mesh size for gaps.....

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 41 TO 60 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 14 TO 20 STEP 2

24 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 23 TO 29 STEP 2

28 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 2, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 61 TO 62 STEP 1

2 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 69 TO 70 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 91 TO 92 STEP 1

6 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 98 TO 99 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 21 TO 22 STEP 1

10 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 77 TO 78 STEP 1

12 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 89 TO 90 STEP 1

14 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 67 TO 68 STEP 1

16 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 75 TO 76 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 13 STEP 1

19 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 30 TO 30 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

*** WARNING *** CP= 12.840 TIME= 20:30:19
Some lines in the currently selected set were meshed and could not be altered.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 63 TO 66 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 71 TO 74 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 88 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 40 STEP 1

26 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 93 TO 97 STEP 1

31 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 15 TO 19 STEP 2

34 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 24 TO 28 STEP 2

37 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 14, SPACING RATIO = 1.000

*** WARNING *** CP= 12.890 TIME= 20:30:19
Some lines in the currently selected set were meshed and could not be altered:

MESH CORNER GUIDES

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 7 TO 10 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 3758
MAXIMUM ELEMENT NUMBER = 3346
MESH THERMAL SHUNTS

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 27 IN STEPS OF 1

*** WARNING *** CP= 13.450 TIME= 20:30:19
Meshing of area 13 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.450 TIME= 20:30:19
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3365 3378 3379 3392

*** WARNING *** CP= 13.500 TIME= 20:30:19
Meshing of area 14 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.500 TIME= 20:30:19
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3393 3406 3407 3420

*** WARNING *** CP= 13.640 TIME= 20:30:20
Meshing of area 18 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.640 TIME= 20:30:20
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3453 3454 3479 3480

*** WARNING *** CP= 13.690 TIME= 20:30:20
Meshing of area 19 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.690 TIME= 20:30:20
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3481 3482 3507 3508

*** WARNING *** CP= 13.820 TIME= 20:30:20
Meshing of area 22 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.820 TIME= 20:30:20
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3537 3550 3551 3564

*** WARNING *** CP= 13.870 TIME= 20:30:20
Meshing of area 23 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.870 TIME= 20:30:20
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3565 3578 3579 3592

*** WARNING *** CP= 13.920 TIME= 20:30:20
Meshing of area 24 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.920 TIME= 20:30:20
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3593 3606 3607 3620

*** WARNING *** CP= 13.970 TIME= 20:30:20
Meshing of area 25 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.970 TIME= 20:30:20
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3621 3634 3635 3648

*** WARNING *** CP= 14.020 TIME= 20:30:20
Meshing of area 26 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.020 TIME= 20:30:20
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3649 3662 3663 3676

NUMBER OF AREAS MESHED = 17
MAXIMUM NODE NUMBER = 3991
MAXIMUM ELEMENT NUMBER = 3690

Create mesh in UCF inner shell
(L's 105,108)

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 21 STEP 1

9 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 105 KP1= 15 KP2= 24

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 30 STEP 1

9 LINES (OF 219 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 108 KP1= 24 KP2= 33

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 31 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 3 TO 4 IN STEPS OF 1

*** WARNING *** CP= 15.020 TIME= 20:30:21
Meshing of area 3 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.020 TIME= 20:30:21
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3718 3719 3720 3721 3722 3723 3724 3725 3726 3727
3728 3729 3730 3731 3732 3733 3734 3735 3738 3763
3764 3765 3766 3767 3768 3769 3770 3771 3772 3773
3774 3799 3800 3801 3802 3803 3804 3805 3806 3807
3808 3809 3810 3837 3838 3839 3840 3841 3842 3843
3844 3845 3846 3847 3848 3849 3850 3851 3852 3853
3854 3855

*** WARNING *** CP= 15.890 TIME= 20:30:22
Meshing of area 4 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.890 TIME= 20:30:22
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3910 3911 3912 3913 3914 3915 3916 3917 3918 3919
3920 3921 3922 3923 3924 3925 3926 3927 3930 3955
3956 3957 3958 3959 3960 3961 3962 3963 3964 3965
3966 3991 3992 3993 3994 3995 3996 3997 3998 3999
4000 4001 4002 4029 4030 4031 4032 4033 4034 4035
4036 4037 4033 4039 4040 4041 4042 4043 4044 4045
4046 4047

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4483
MAXIMUM ELEMENT NUMBER = 4074
Delete concatenated lines
(L's freed up 105,108)
LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

TO NDIV = 64, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 3

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 1 TO 2 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4870
MAXIMUM ELEMENT NUMBER = 4458

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2185	USED FOR NODES	3588
NODE 2831	USED FOR NODES	3717
NODE 2198	USED FOR NODES	3590
NODE 2864	USED FOR NODES	3741
NODE 2186	USED FOR NODES	3602
NODE 2867	USED FOR NODES	3738
NODE 2188	USED FOR NODES	3600
NODE 2872	USED FOR NODES	3733
NODE 2189	USED FOR NODES	3599
NODE 2190	USED FOR NODES	3598
NODE 2191	USED FOR NODES	3597
NODE 2192	USED FOR NODES	3596
NODE 2193	USED FOR NODES	3595
NODE 2194	USED FOR NODES	3594
NODE 2196	USED FOR NODES	3592
NODE 2863	USED FOR NODES	3742
NODE 2197	USED FOR NODES	3591
NODE 2195	USED FOR NODES	3593
NODE 2861	USED FOR NODES	3744
NODE 2866	USED FOR NODES	3739
NODE 2860	USED FOR NODES	3745
NODE 2870	USED FOR NODES	3735
NODE 2862	USED FOR NODES	3743
NODE 2868	USED FOR NODES	3737
NODE 2869	USED FOR NODES	3736
NODE 2865	USED FOR NODES	3740
NODE 2187	USED FOR NODES	3601
NODE 2871	USED FOR NODES	3734
NODE 3224	USED FOR NODES	3659
NODE 3518	USED FOR NODES	3676
NODE 3225	USED FOR NODES	3658
NODE 3517	USED FOR NODES	3677
NODE 3226	USED FOR NODES	3657
NODE 3546	USED FOR NODES	3678
NODE 3227	USED FOR NODES	3656
NODE 3515	USED FOR NODES	3679
NODE 3228	USED FOR NODES	3655
NODE 3514	USED FOR NODES	3680
NODE 3229	USED FOR NODES	3654
NODE 3513	USED FOR NODES	3681
NODE 3230	USED FOR NODES	3653
NODE 3512	USED FOR NODES	3682

NODE 3231 USED FOR NODES 3652
 NODE 3511 USED FOR NODES 3683
 NODE 3232 USED FOR NODES 3651
 NODE 3510 USED FOR NODES 3684
 NODE 3509 USED FOR NODES 3685
 NODE 3233 USED FOR NODES 3650
 NODE 3234 USED FOR NODES 3649
 NODE 3508 USED FOR NODES 3686
 NODE 3235 USED FOR NODES 3648
 NODE 3507 USED FOR NODES 3687
 NODE 3506 USED FOR NODES 3688
 NODE 3236 USED FOR NODES 3647
 NODE 3505 USED FOR NODES 3674
 NODE 3196 USED FOR NODES 3631

*** WARNING *** CP= 20.040 TIME= 20:30:26
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 20.350 TIME= 20:30:26
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.350 TIME= 20:30:26
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.360 TIME= 20:30:26
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.360 TIME= 20:30:26
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
 IN AREAS 5 TO 6 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 5124
 MAXIMUM ELEMENT NUMBER = 4752

GENERATE NODES AND ELEMENTS
 IN AREAS 28 TO 34 IN STEPS OF 1
 ** AREA 29 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 30 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 31 MESHED WITH 110 QUADRILATERALS, 8 TRIANGLES **

** AREA 32 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 33 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **

NUMBER OF AREAS MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5252

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2213 USED FOR NODES 5167
 NODE 2844 USED FOR NODES 5451
 NODE 2214 USED FOR NODES 5168
 NODE 2843 USED FOR NODES 5450
 NODE 2215 USED FOR NODES 5169
 NODE 2842 USED FOR NODES 5449
 NODE 2216 USED FOR NODES 5170
 NODE 2841 USED FOR NODES 5448
 NODE 2217 USED FOR NODES 5171
 NODE 2840 USED FOR NODES 5447
 NODE 2218 USED FOR NODES 5172
 NODE 2839 USED FOR NODES 5446
 NODE 2219 USED FOR NODES 5173
 NODE 2838 USED FOR NODES 5445
 NODE 2220 USED FOR NODES 5174
 NODE 2837 USED FOR NODES 5444
 NODE 2221 USED FOR NODES 5175
 NODE 2836 USED FOR NODES 5443
 NODE 2222 USED FOR NODES 5176
 NODE 2835 USED FOR NODES 5442
 NODE 2223 USED FOR NODES 5177
 NODE 2834 USED FOR NODES 5441
 NODE 2224 USED FOR NODES 5178
 NODE 2833 USED FOR NODES 5440
 NODE 2225 USED FOR NODES 5179
 NODE 2832 USED FOR NODES 5439
 NODE 3536 USED FOR NODES 5381
 NODE 3541 USED FOR NODES 5386
 NODE 3197 USED FOR NODES 5227
 NODE 3537 USED FOR NODES 5382
 NODE 3199 USED FOR NODES 5229
 NODE 3200 USED FOR NODES 5230
 NODE 3201 USED FOR NODES 5231
 NODE 3202 USED FOR NODES 5232
 NODE 3203 USED FOR NODES 5233
 NODE 3204 USED FOR NODES 5234
 NODE 3205 USED FOR NODES 5235
 NODE 3540 USED FOR NODES 5385
 NODE 3207 USED FOR NODES 5237
 NODE 3534 USED FOR NODES 5379
 NODE 3208 USED FOR NODES 5238
 NODE 3542 USED FOR NODES 5387
 NODE 3209 USED FOR NODES 5239
 NODE 3538 USED FOR NODES 5383
 NODE 3539 USED FOR NODES 5384
 NODE 3546 USED FOR NODES 5391
 NODE 3545 USED FOR NODES 5390
 NODE 3544 USED FOR NODES 5389
 NODE 3198 USED FOR NODES 5228
 NODE 3535 USED FOR NODES 5380
 NODE 3206 USED FOR NODES 5236
 NODE 3543 USED FOR NODES 5388

*** WARNING *** CP= 25.720 TIME= 20:30:32
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 26.060 TIME= 20:30:32
 Keypoints 18 and 139 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.060 TIME= 20:30:32

Keypoints 30 and 154 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.070 TIME= 20:30:32

Keypoints 27 and 170 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.070 TIME= 20:30:32

Keypoints 21 and 163 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

Create radiation surface elements

Basket spaces

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS

ON LINES 13 TO 21 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5308

GENERATE NODES AND ELEMENTS

ON LINES 22 TO 30 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5364

GENERATE NODES AND ELEMENTS

ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5392

GENERATE NODES AND ELEMENTS

ON LINES 37 TO 38 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5420

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS

ON LINES 92 TO 98 IN STEPS OF 1

NUMBER OF LINES MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5504

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 68 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5518

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 78 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5546

GENERATE NODES AND ELEMENTS
ON LINES 89 TO 90 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5560

***** ROUTINE COMPLETED ***** CP = 26.360

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=

21 PWR UCF/Waste Package - 1/2 FEM Model

/SHOW SWITCH PLOTS TO FILE meshfull.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshfull.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4766 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

/SHOW SWITCH PLOTS TO FILE meshgap.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshgap.grph - VECTOR MODE.
DISPLAY TITLE=

21 PWR UCF/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

/SHOW SWITCH PLOTS TO FILE meshrad.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshrad.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:30:38 JUN 10, 1995 CP= 31.880
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

310 NODES (OF 5339 DEFINED) SELECTED FROM
308 SELECTED ELEMENTS BY NSLE COMMAND.

STEFAN-BOLTZMANN CONSTANT= .56700E-07

TWO DIMENSIONAL PLANE GEOMETRY (UNIT THICKNESS)

HIDDEN SURFACE (SLOW) METHOD
NUMBER OF ZONES= 800

WRITE RADIATION MATRIX TO FILE= spaces.sub

*** WARNING *** CP= 32.140 TIME= 20:30:38
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation

losses.

NUMBER OF ELEMENTS= 308 NUMBER OF NODES= 310

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 46.760

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:30:53 JUN 10, 1995 CP= 46.760
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE SET TO 18

SUPERELEMENT 5561 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 5561

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 5561
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

29 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 46.810 TIME= 20:30:53
Nodes cannot be cleared from line 13 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.810 TIME= 20:30:53
Nodes cannot be cleared from line 15 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.820 TIME= 20:30:53
Nodes cannot be cleared from line 17 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.830 TIME= 20:30:53
Nodes cannot be cleared from line 19 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.830 TIME= 20:30:53
Nodes cannot be cleared from line 21 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.830 TIME= 20:30:53
Nodes cannot be cleared from line 22 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.840 TIME= 20:30:53
Nodes cannot be cleared from line 24 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.840 TIME= 20:30:53
Nodes cannot be cleared from line 26 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.850 TIME= 20:30:53
Nodes cannot be cleared from line 28 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.860 TIME= 20:30:53
Nodes cannot be cleared from line 30 because area 34 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.860 TIME= 20:30:53
Nodes cannot be cleared from line 33 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.860 TIME= 20:30:53
Nodes cannot be cleared from line 34 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.870 TIME= 20:30:53
Nodes cannot be cleared from line 37 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.880 TIME= 20:30:53
Nodes cannot be cleared from line 38 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.880 TIME= 20:30:53
Nodes cannot be cleared from line 67 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.880 TIME= 20:30:53
Nodes cannot be cleared from line 68 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.890 TIME= 20:30:53
Nodes cannot be cleared from line 75 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.890 TIME= 20:30:53
Nodes cannot be cleared from line 76 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 20:30:53
Nodes cannot be cleared from line 77 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 20:30:53
Nodes cannot be cleared from line 78 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 20:30:53
Nodes cannot be cleared from line 89 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.910 TIME= 20:30:53
Nodes cannot be cleared from line 90 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.910 TIME= 20:30:53
Nodes cannot be cleared from line 92 because area 28 is meshed. Only

elements are deleted.

*** NOTE *** CP= 46.910 TIME= 20:30:53
Nodes cannot be cleared from line 93 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.920 TIME= 20:30:53
Nodes cannot be cleared from line 94 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.930 TIME= 20:30:53
Nodes cannot be cleared from line 95 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.930 TIME= 20:30:53
Nodes cannot be cleared from line 96 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.940 TIME= 20:30:53
Nodes cannot be cleared from line 97 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.940 TIME= 20:30:53
Nodes cannot be cleared from line 98 because area 34 is meshed. Only
elements are deleted.

CLEARED 29 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 46.950

Set solution parameters and apply B.C.'s

Solve steady-state for initial conditions
with WP surface equal to drift ambient
temperature from repository model.

***** ANSYS SOLUTION ROUTINE *****

PERFORM A TRANSIENT ANALYSIS
THIS WILL BE A NEW ANALYSIS

USE THE DEFAULT NEWTON-RAPHSON OPTION FOR ALL DOFS
AND USE THE DEFAULT ADAPTIVE DESCENT OPTION

*** NOTE *** CP= 46.960 TIME= 20:30:53
Damping (if present) may be ignored only in reduced transient analyses.

PERFORM A FULL TRANSIENT ANALYSIS

TEMPERATURE OFFSET FROM ABSOLUTE ZERO= 273.150

SELECT ~ FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 5538 BY 1
REAL= 26.1379438 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .10000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

*** NOTE *** CP= 48.380 TIME= 20:30:55
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:30:55 JUN 10, 1995 CP= 48.390
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
DEGREES OF FREEDOM.TEMP

ANALYSIS TYPETRANSIENT
 SOLUTION METHOD.FULL
 OFFSET TEMPERATURE FROM ABSOLUTE ZERO273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 49.440 TIME= 20:30:56
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 49.940 TIME= 20:30:56
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER.1
 TIME AT END OF THE LOAD STEP.1.0000E-05
 AUTOMATIC TIME STEPPINGON
 INITIAL NUMBER OF SUBSTEPS0
 MAXIMUM NUMBER OF SUBSTEPS0
 MINIMUM NUMBER OF SUBSTEPS1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS.25
 STEP CHANGE BOUNDARY CONDITIONSNO
 TRANSIENT (INERTIA) EFFECTSOFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 5022.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .36600	IXX = 929.5	IXX = 929.5
YC = .10813E-10	IYY = 929.6	IYY = 256.7
ZC = .00000E+00	IZZ = 1859.	IZZ = 1186.
	IXY = -.1213E-07	IXY = .7745E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	5022.88

Range of element maximum matrix coefficients in global coordinates
 Maximum= 2640.26464 at element 3393.
 Minimum= 1.261859514E-09 at element 5561.

*** WARNING *** CP= 69.800 TIME= 20:31:18
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
------	--------	-------	----------	--------

1	5252	PLANE55	12.880	.002
18	1	MATRIX50	.100	.100

Time at end of element matrix formulation CP= 69.8.
 HT FLOW CONVERGENCE VALUE= 7082. CRITERION= 7.082

Estimated number of active DOF= 5210.
Maximum wavefront= 384.

Time at end of matrix triangularization CP= 94.95.
Equation solver maximum pivot= 5623.89496 at node 3957 TEMP.
Equation solver minimum pivot= 0.172720496 at node 5125 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 192.3
HT FLOW CONVERGENCE VALUE= 74.33 CRITERION= .3132
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -31.49
HT FLOW CONVERGENCE VALUE= 6.044 CRITERION= .3113
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.886
HT FLOW CONVERGENCE VALUE= .3147 CRITERION= .3091
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1910
HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .3090 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 4

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	7.370	.001
18	1	MATRIX50	.160	.160

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	1.080	.000
18	1	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 4
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS

ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 5210
R.M.S. WAVEFRONT SIZE = 177.2

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096
2.594 MB WRITTEN ON ELEMENT MATRIX FILE: ucf21x.emat
2.359 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf21x.esav
6.969 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf21x.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf21x.dsub
2.859 MB WRITTEN ON RESULTS FILE: ucf21x.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 5538 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 129

ALL SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.138 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.192 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.254 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .20000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** WARNING *** CP= 254.050 TIME= 20:34:27
This load step will be a static (steady-state) step.

*** NOTE *** CP= 254.560 TIME= 20:34:28
The step data was checked and warning messages were found.
Please review output or errors file (ucf21x.err) for these warning messages.

*** NOTE *** CP= 254.570 TIME= 20:34:28
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:34:28 JUN 10, 1995 CP= 254.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 2
 TIME AT END OF THE LOAD STEP.20000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1171E+05 CRITERION= 11.72
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.27
 HT FLOW CONVERGENCE VALUE= 37.92 CRITERION= .3152
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -9.380
 HT FLOW CONVERGENCE VALUE= 2.690 CRITERION= .3075
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9184
 HT FLOW CONVERGENCE VALUE= .1217 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 7
 *** TIME = .200000E-05 TIME INC = .100000E-05

 Set time integration parameters

INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

USE AUTOMATIC TIME STEPPING THIS LOAD STEP
 Time substep ranges from 10 sec to 1/4 loadstep

USE 10 SUBSTEPS INITIALLY THIS LOAD STEP FOR ALL DOFS
 FOR AUTOMATIC TIME STEPPING:
 USE 40 SUBSTEPS AS A MAXIMUM
 USE 5 SUBSTEPS AS A MINIMUM
 USE THE FINAL TIME STEP SIZE OF THE PREVIOUS LOAD STEP
 AS THE STARTING TIME STEP SIZE.
 Begin Transient
 Apply loads and solve for 0 to .9 years

*DO LOOP ON PARAMETER= TM FROM 31.558 TO .28402E+08 BY .31558E+07

TIME= 31.558

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=

IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

LOAD LABELS = TEMP
VALUES = 69.138 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP
VALUES = 69.192 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 69.254 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 381.820 TIME= 20:36:40
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:36:40 JUN 10, 1995 CP= 381.820
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 3
TIME AT END OF THE LOAD STEP. 31.558
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1217 CRITERION= .3067
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1696E-03
HT FLOW CONVERGENCE VALUE= .3627E-05 CRITERION= .3067 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 8
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1825 OSCILLATION LIMIT = .1440
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2256 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2069E-03
 HT FLOW CONVERGENCE VALUE= .5546E-05 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 9
 *** TIME = 1.57788 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .9649E-01 OSCILLATION LIMIT = .7613E-01
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .2160 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3316E-03
 HT FLOW CONVERGENCE VALUE= .1180E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 10
 *** TIME = 3.94470 TIME INC = 2.36682
 *** RESPONSE EIGENVALUE = .2483E-01 OSCILLATION LIMIT = .5877E-01
 *** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .2042 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2058E-03
 HT FLOW CONVERGENCE VALUE= .2665E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 11
 *** TIME = 10.2562 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .5020E-02 OSCILLATION LIMIT = .3168E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2006 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9521E-04
 HT FLOW CONVERGENCE VALUE= .2403E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 12
 *** TIME = 16.5677 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .2193E-02 OSCILLATION LIMIT = .1384E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1962 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9502E-04
 HT FLOW CONVERGENCE VALUE= .2326E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 13
 *** TIME = 22.8793 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .1799E-02 OSCILLATION LIMIT = .1135E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1950 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9483E-04
 HT FLOW CONVERGENCE VALUE= .2284E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 14
 *** TIME = 29.1908 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .1609E-02 OSCILLATION LIMIT = .1015E-01
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .1917 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3551E-04
 HT FLOW CONVERGENCE VALUE= .8492E-05 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 8 COMPLETED. CUM ITER = 15
 *** TIME = 31.5576 TIME INC = 2.36682
 *** RESPONSE EIGENVALUE = .1529E-02 OSCILLATION LIMIT = .3619E-02

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:45:17 JUN 10, 1995 CP= 890.250

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 204.9 CRITERION= .3689
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7923
 HT FLOW CONVERGENCE VALUE= .5199 CRITERION= .3045
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7839E-01
 HT FLOW CONVERGENCE VALUE= .2244E-01 CRITERION= .3045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 17
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6794E-05 OSCILLATION LIMIT = .5360
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 206.0 CRITERION= .3674
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7999
 HT FLOW CONVERGENCE VALUE= .6559 CRITERION= .3058
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1037
 HT FLOW CONVERGENCE VALUE= .2478E-01 CRITERION= .3058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 19
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4880E-06 OSCILLATION LIMIT = .3850E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 615.1 CRITERION= .6869
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.377
 HT FLOW CONVERGENCE VALUE= 1.651 CRITERION= .3045
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3705
 HT FLOW CONVERGENCE VALUE= .9787E-01 CRITERION= .3044 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 21
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .8437E-06 OSCILLATION LIMIT = .1997
 *** AUTO TIME STEP: NEXT TIME INC = .59263E+06 INCREASED (FACTOR = 2.5039)

HT FLOW CONVERGENCE VALUE= 1542. CRITERION= 1.571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.951
 HT FLOW CONVERGENCE VALUE= 4.147 CRITERION= .3056
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.027
 HT FLOW CONVERGENCE VALUE= .2873 CRITERION= .3051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 23
 *** TIME = 987127. TIME INC = 592626.
 *** RESPONSE EIGENVALUE = .6951E-06 OSCILLATION LIMIT = .4119
 *** AUTO STEP TIME: NEXT TIME INC = .59263E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1544. CRITERION= 1.574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.951
 HT FLOW CONVERGENCE VALUE= 4.482 CRITERION= .3038
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.030
 HT FLOW CONVERGENCE VALUE= .2987 CRITERION= .3033 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 25
 *** TIME = .157975E+07 TIME INC = 592626.
 *** RESPONSE EIGENVALUE = .7173E-06 OSCILLATION LIMIT = .4251
 *** AUTO STEP TIME: NEXT TIME INC = .59263E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1547. CRITERION= 1.576
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.951
 HT FLOW CONVERGENCE VALUE= 4.385 CRITERION= .3045
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.042
 HT FLOW CONVERGENCE VALUE= .3057 CRITERION= .3041
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9660E-01
 HT FLOW CONVERGENCE VALUE= .1229E-01 CRITERION= .3040 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 28
 *** TIME = .217238E+07 TIME INC = 592626.

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*** RESPONSE EIGENVALUE = .6109E-06 OSCILLATION LIMIT = .3620
*** AUTO STEP TIME: NEXT TIME INC = .59263E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1549. CRITERION= 1.578
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.951
HT FLOW CONVERGENCE VALUE= 4.385 CRITERION= .3026
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.020
HT FLOW CONVERGENCE VALUE= .2968 CRITERION= .3023 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 30
*** TIME = .276500E+07 TIME INC = 592626.
*** RESPONSE EIGENVALUE = .7601E-06 OSCILLATION LIMIT = .4505
*** AUTO TIME STEP: NEXT TIME INC = .39079E+06 DECREASED (FACTOR = .6594)

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HT FLOW CONVERGENCE VALUE= 1023. CRITERION= 1.067
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.924
HT FLOW CONVERGENCE VALUE= 2.868 CRITERION= .3031
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6466
HT FLOW CONVERGENCE VALUE= .1839 CRITERION= .3031 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 32
*** TIME = .315579E+07 TIME INC = 390787.
*** RESPONSE EIGENVALUE = .6210E-06 OSCILLATION LIMIT = .2427

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***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:58:26 JUN 10, 1995 CP= 1669.670
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 235.1 CRITERION= .3836
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.151
HT FLOW CONVERGENCE VALUE= .7776 CRITERION= .3037
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1809
HT FLOW CONVERGENCE VALUE= .4606E-01 CRITERION= .3037 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 34
*** TIME = .354658E+07 TIME INC = 390787.
*** RESPONSE EIGENVALUE = .6267E-06 OSCILLATION LIMIT = .2449
*** AUTO STEP TIME: NEXT TIME INC = .39079E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 235.3 CRITERION= .3841
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8406
HT FLOW CONVERGENCE VALUE= .5813 CRITERION= .3029
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1149
HT FLOW CONVERGENCE VALUE= .3899E-01 CRITERION= .3029 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 36
*** TIME = .393737E+07 TIME INC = 390787.
*** RESPONSE EIGENVALUE = .4408E-05 OSCILLATION LIMIT = 1.722
*** AUTO TIME STEP: NEXT TIME INC = .13026E+06 DECREASED (FACTOR = .3333)

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HT FLOW CONVERGENCE VALUE= 78.39 CRITERION= .3129
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4213
HT FLOW CONVERGENCE VALUE= .2797 CRITERION= .3031 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 37
*** TIME = .406763E+07 TIME INC = 130262.
*** RESPONSE EIGENVALUE = .1833E-05 OSCILLATION LIMIT = .2388
*** AUTO STEP TIME: NEXT TIME INC = .13026E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 78.58 CRITERION= .3131
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2814
HT FLOW CONVERGENCE VALUE= .1975 CRITERION= .3031 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 38

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*** TIME = .419789E+07    TIME INC = 130262.
*** RESPONSE EIGENVALUE = .3462E-05    OSCILLATION LIMIT = .4509
*** AUTO STEP TIME: NEXT TIME INC = .13026E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 78.38    CRITERION= .3130
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2802
    HT FLOW CONVERGENCE VALUE= .2274    CRITERION= .3029    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 39
*** TIME = .432815E+07    TIME INC = 130262.
*** RESPONSE EIGENVALUE = .1177E-05    OSCILLATION LIMIT = .1534
*** AUTO TIME STEP: NEXT TIME INC = .39079E+06    INCREASED (FACTOR = 3.0000)

    HT FLOW CONVERGENCE VALUE= 235.3    CRITERION= .3835
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8426
    HT FLOW CONVERGENCE VALUE= .6689    CRITERION= .3028
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1358
    HT FLOW CONVERGENCE VALUE= .4117E-01    CRITERION= .3028    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 41
*** TIME = .471894E+07    TIME INC = 390787.
*** RESPONSE EIGENVALUE = .1375E-05    OSCILLATION LIMIT = .5373
*** AUTO STEP TIME: NEXT TIME INC = .39079E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 235.1    CRITERION= .3834
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8406
    HT FLOW CONVERGENCE VALUE= .6879    CRITERION= .3024
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1402
    HT FLOW CONVERGENCE VALUE= .4192E-01    CRITERION= .3024    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 43
*** TIME = .510973E+07    TIME INC = 390787.
*** RESPONSE EIGENVALUE = .1056E-05    OSCILLATION LIMIT = .4128
*** AUTO STEP TIME: NEXT TIME INC = .39079E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 235.3    CRITERION= .3831
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8418
    HT FLOW CONVERGENCE VALUE= .6840    CRITERION= .3024
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1413
    HT FLOW CONVERGENCE VALUE= .4150E-01    CRITERION= .3024    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 45
*** TIME = .550051E+07    TIME INC = 390787.
*** RESPONSE EIGENVALUE = .8604E-06    OSCILLATION LIMIT = .3362
*** AUTO STEP TIME: NEXT TIME INC = .39079E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 235.1    CRITERION= .3830
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8406
    HT FLOW CONVERGENCE VALUE= .6986    CRITERION= .3020
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1400
    HT FLOW CONVERGENCE VALUE= .4223E-01    CRITERION= .3020    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 47
*** TIME = .589130E+07    TIME INC = 390787.
*** RESPONSE EIGENVALUE = .1032E-05    OSCILLATION LIMIT = .4035
*** AUTO TIME STEP: NEXT TIME INC = .21012E+06    DECREASED (FACTOR = .5377)

    HT FLOW CONVERGENCE VALUE= 126.6    CRITERION= .3274
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4527
    HT FLOW CONVERGENCE VALUE= .3734    CRITERION= .3020
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7009E-01
    HT FLOW CONVERGENCE VALUE= .2081E-01    CRITERION= .3020    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 49
*** TIME = .610143E+07    TIME INC = 210125.
*** RESPONSE EIGENVALUE = .9073E-06    OSCILLATION LIMIT = .1906
*** AUTO STEP TIME: NEXT TIME INC = .21012E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 126.4    CRITERION= .3274
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4520

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HT FLOW CONVERGENCE VALUE= .3840 CRITERION= .3018
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6922E-01
 HT FLOW CONVERGENCE VALUE= .2092E-01 CRITERION= .3018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 51
 *** TIME = .631155E+07 TIME INC = 210125.
 *** RESPONSE EIGENVALUE = .1188E-05 OSCILLATION LIMIT = .2496

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:14:17 JUN 10, 1995 CP= 2610.050
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 81.95 CRITERION= .3127
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3113
 HT FLOW CONVERGENCE VALUE= .2503 CRITERION= .3020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 52
 *** TIME = .652168E+07 TIME INC = 210125.
 *** RESPONSE EIGENVALUE = .4917E-06 OSCILLATION LIMIT = .1033
 *** AUTO STEP TIME: NEXT TIME INC = .21012E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.68 CRITERION= .3129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2928
 HT FLOW CONVERGENCE VALUE= .2365 CRITERION= .3016 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 53
 *** TIME = .673180E+07 TIME INC = 210125.
 *** RESPONSE EIGENVALUE = .2072E-05 OSCILLATION LIMIT = .4353
 *** AUTO STEP TIME: NEXT TIME INC = .21012E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.95 CRITERION= .3125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2955
 HT FLOW CONVERGENCE VALUE= .2367 CRITERION= .3018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 54
 *** TIME = .694193E+07 TIME INC = 210125.
 *** RESPONSE EIGENVALUE = .1251E-05 OSCILLATION LIMIT = .2628
 *** AUTO TIME STEP: NEXT TIME INC = .39978E+06 INCREASED (FACTOR = 1.9026)

HT FLOW CONVERGENCE VALUE= 155.5 CRITERION= .3395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5571
 HT FLOW CONVERGENCE VALUE= .4664 CRITERION= .3013
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8650E-01
 HT FLOW CONVERGENCE VALUE= .2810E-01 CRITERION= .3013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 56
 *** TIME = .734170E+07 TIME INC = 399776.
 *** RESPONSE EIGENVALUE = .2171E-05 OSCILLATION LIMIT = .8679
 *** AUTO TIME STEP: NEXT TIME INC = .23031E+06 DECREASED (FACTOR = .5761)

HT FLOW CONVERGENCE VALUE= 89.80 CRITERION= .3144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3226
 HT FLOW CONVERGENCE VALUE= .2724 CRITERION= .3015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 57
 *** TIME = .757201E+07 TIME INC = 230305.
 *** RESPONSE EIGENVALUE = .6680E-06 OSCILLATION LIMIT = .1538
 *** AUTO STEP TIME: NEXT TIME INC = .23031E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 89.53 CRITERION= .3145
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3209
 HT FLOW CONVERGENCE VALUE= .2764 CRITERION= .3011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 58

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*** TIME = .780231E+07    TIME INC = 230305.
*** RESPONSE EIGENVALUE = .1185E-05    OSCILLATION LIMIT = .2730
*** AUTO TIME STEP: NEXT TIME INC = .42181E+06    INCREASED (FACTOR = 1.8315)

    HT FLOW CONVERGENCE VALUE= 164.3    CRITERION= .3430
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5901
    HT FLOW CONVERGENCE VALUE= .4989    CRITERION= .3012
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9099E-01
    HT FLOW CONVERGENCE VALUE= .2992E-01    CRITERION= .3012    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 60
*** TIME = .822412E+07    TIME INC = 421805.
*** RESPONSE EIGENVALUE = .2125E-05    OSCILLATION LIMIT = .8965
*** AUTO TIME STEP: NEXT TIME INC = .23525E+06    DECREASED (FACTOR = .5577)

    HT FLOW CONVERGENCE VALUE= 91.46    CRITERION= .3147
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3278
    HT FLOW CONVERGENCE VALUE= .2908    CRITERION= .3008    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 61
*** TIME = .845937E+07    TIME INC = 235254.
*** RESPONSE EIGENVALUE = .4352E-06    OSCILLATION LIMIT = .1024
*** AUTO STEP TIME: NEXT TIME INC = .23525E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 91.72    CRITERION= .3144
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3310
    HT FLOW CONVERGENCE VALUE= .2813    CRITERION= .3010    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 62
*** TIME = .869463E+07    TIME INC = 235254.
*** RESPONSE EIGENVALUE = .9940E-06    OSCILLATION LIMIT = .2339
*** AUTO TIME STEP: NEXT TIME INC = .50300E+06    INCREASED (FACTOR = 2.1381)

    HT FLOW CONVERGENCE VALUE= 195.6    CRITERION= .3589
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7010
    HT FLOW CONVERGENCE VALUE= .6089    CRITERION= .3004
    EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1112
    HT FLOW CONVERGENCE VALUE= .3694E-01    CRITERION= .3004    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 64
*** TIME = .919762E+07    TIME INC = 502999.
*** RESPONSE EIGENVALUE = .2120E-05    OSCILLATION LIMIT = 1.067
*** AUTO TIME STEP: NEXT TIME INC = .13484E+06    DECREASED (FACTOR = .2681)

    HT FLOW CONVERGENCE VALUE= 52.66    CRITERION= .3050
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1897
    HT FLOW CONVERGENCE VALUE= .1657    CRITERION= .3006    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 65
*** TIME = .933247E+07    TIME INC = 134844.
*** RESPONSE EIGENVALUE = .1007E-05    OSCILLATION LIMIT = .1359
*** AUTO STEP TIME: NEXT TIME INC = .13484E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 52.40    CRITERION= .3051
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1879
    HT FLOW CONVERGENCE VALUE= .1675    CRITERION= .3003    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 66
*** TIME = .946731E+07    TIME INC = 134844.
*** RESPONSE EIGENVALUE = .1469E-05    OSCILLATION LIMIT = .1981

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303          VERSION=HP 9000/7XX 21:28:38 JUN 10, 1995 CP= 3460.660
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 40.47 CRITERION= .3030
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1473
 HT FLOW CONVERGENCE VALUE= .1242 CRITERION= .3006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 67
 *** TIME = .960216E+07 TIME INC = 134844.
 *** RESPONSE EIGENVALUE = .1971E-05 OSCILLATION LIMIT = .2658
 *** AUTO STEP TIME: NEXT TIME INC = .13484E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.17 CRITERION= .3032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1443
 HT FLOW CONVERGENCE VALUE= .1227 CRITERION= .3002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 68
 *** TIME = .973700E+07 TIME INC = 134844.
 *** RESPONSE EIGENVALUE = .2800E-05 OSCILLATION LIMIT = .3776
 *** AUTO STEP TIME: NEXT TIME INC = .13484E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.47 CRITERION= .3029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1470
 HT FLOW CONVERGENCE VALUE= .1243 CRITERION= .3004 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 69
 *** TIME = .987184E+07 TIME INC = 134844.
 *** RESPONSE EIGENVALUE = .1767E-05 OSCILLATION LIMIT = .2383
 *** AUTO TIME STEP: NEXT TIME INC = .28295E+06 INCREASED (FACTOR = 2.0984)

HT FLOW CONVERGENCE VALUE= 84.39 CRITERION= .3121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3028
 HT FLOW CONVERGENCE VALUE= .2648 CRITERION= .3000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 70
 *** TIME = .101548E+08 TIME INC = 282954.
 *** RESPONSE EIGENVALUE = .1030E-05 OSCILLATION LIMIT = .2915
 *** AUTO TIME STEP: NEXT TIME INC = .48538E+06 INCREASED (FACTOR = 1.7154)

HT FLOW CONVERGENCE VALUE= 145.1 CRITERION= .3332
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5218
 HT FLOW CONVERGENCE VALUE= .4581 CRITERION= .3001
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8124E-01
 HT FLOW CONVERGENCE VALUE= .2719E-01 CRITERION= .3001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 72
 *** TIME = .106402E+08 TIME INC = 485379.
 *** RESPONSE EIGENVALUE = .2141E-05 OSCILLATION LIMIT = 1.039
 *** AUTO TIME STEP: NEXT TIME INC = .23354E+06 DECREASED (FACTOR = .4812)

HT FLOW CONVERGENCE VALUE= 69.64 CRITERION= .3081
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2499
 HT FLOW CONVERGENCE VALUE= .2216 CRITERION= .2996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 73
 *** TIME = .108737E+08 TIME INC = 233541.
 *** RESPONSE EIGENVALUE = .8343E-06 OSCILLATION LIMIT = .1948
 *** AUTO STEP TIME: NEXT TIME INC = .23354E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 69.93 CRITERION= .3077
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2530
 HT FLOW CONVERGENCE VALUE= .2222 CRITERION= .2999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 74
 *** TIME = .111073E+08 TIME INC = 233541.
 *** RESPONSE EIGENVALUE = .9709E-06 OSCILLATION LIMIT = .2267
 *** AUTO TIME STEP: NEXT TIME INC = .51501E+06 INCREASED (FACTOR = 2.2052)

HT FLOW CONVERGENCE VALUE= 153.7 CRITERION= .3370
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5511
 HT FLOW CONVERGENCE VALUE= .4867 CRITERION= .2993
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8471E-01

HT FLOW CONVERGENCE VALUE= .2875E-01 CRITERION= .2993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 76
 *** TIME = .116223E+08 TIME INC = 515013.
 *** RESPONSE EIGENVALUE = .2470E-05 OSCILLATION LIMIT = 1.272
 *** AUTO TIME STEP: NEXT TIME INC = .20246E+06 DECREASED (FACTOR = .3931)

HT FLOW CONVERGENCE VALUE= 60.65 CRITERION= .3054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2186
 HT FLOW CONVERGENCE VALUE= .1978 CRITERION= .2995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 77
 *** TIME = .118247E+08 TIME INC = 202461.
 *** RESPONSE EIGENVALUE = .6242E-06 OSCILLATION LIMIT = .1264
 *** AUTO STEP TIME: NEXT TIME INC = .20246E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.36 CRITERION= .3055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2167
 HT FLOW CONVERGENCE VALUE= .1927 CRITERION= .2991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 78
 *** TIME = .120272E+08 TIME INC = 202461.
 *** RESPONSE EIGENVALUE = .1542E-05 OSCILLATION LIMIT = .3121
 *** AUTO STEP TIME: NEXT TIME INC = .20246E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.65 CRITERION= .3052
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2190
 HT FLOW CONVERGENCE VALUE= .1906 CRITERION= .2993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 79
 *** TIME = .122297E+08 TIME INC = 202461.
 *** RESPONSE EIGENVALUE = .1695E-05 OSCILLATION LIMIT = .3432
 *** AUTO STEP TIME: NEXT TIME INC = .20246E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.36 CRITERION= .3053
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2167
 HT FLOW CONVERGENCE VALUE= .1941 CRITERION= .2989 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 80
 *** TIME = .124321E+08 TIME INC = 202461.
 *** RESPONSE EIGENVALUE = .1549E-05 OSCILLATION LIMIT = .3135
 *** AUTO TIME STEP: NEXT TIME INC = .19096E+06 DECREASED (FACTOR = .9432)

HT FLOW CONVERGENCE VALUE= 57.21 CRITERION= .3043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2067
 HT FLOW CONVERGENCE VALUE= .1837 CRITERION= .2991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 81
 *** TIME = .126231E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1634E-05 OSCILLATION LIMIT = .3120

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:43:34 JUN 10, 1995 CP= 4343.490
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 46.30 CRITERION= .3027
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1504 CRITERION= .2988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 82
 *** TIME = .128140E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1919E-05 OSCILLATION LIMIT = .3664
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.56 CRITERION= .3024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1682
 HT FLOW CONVERGENCE VALUE= .1472 CRITERION= .2990 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 83
 *** TIME = .130050E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .2200E-05 OSCILLATION LIMIT = .4201
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.30 CRITERION= .3025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1504 CRITERION= .2986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 84
 *** TIME = .131959E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1785E-05 OSCILLATION LIMIT = .3408
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.56 CRITERION= .3022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1683
 HT FLOW CONVERGENCE VALUE= .1497 CRITERION= .2988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 85
 *** TIME = .133869E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1907E-05 OSCILLATION LIMIT = .3642
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.30 CRITERION= .3024
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1507 CRITERION= .2984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 86
 *** TIME = .135779E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1916E-05 OSCILLATION LIMIT = .3658
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.56 CRITERION= .3020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1683
 HT FLOW CONVERGENCE VALUE= .1505 CRITERION= .2986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 87
 *** TIME = .137688E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1804E-05 OSCILLATION LIMIT = .3445
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.30 CRITERION= .3022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1505 CRITERION= .2983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 88
 *** TIME = .139598E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1934E-05 OSCILLATION LIMIT = .3693
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.56 CRITERION= .3019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1682
 HT FLOW CONVERGENCE VALUE= .1512 CRITERION= .2984 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 89
 *** TIME = .141507E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1763E-05 OSCILLATION LIMIT = .3367
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.31 CRITERION= .3020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1507 CRITERION= .2981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 90
 *** TIME = .143417E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1919E-05 OSCILLATION LIMIT = .3664

*** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.55 CRITERION= .3017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1682
 HT FLOW CONVERGENCE VALUE= .1513 CRITERION= .2983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 91
 *** TIME = .145326E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1742E-05 OSCILLATION LIMIT = .3326
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.31 CRITERION= .3018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1509 CRITERION= .2979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 92
 *** TIME = .147236E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1895E-05 OSCILLATION LIMIT = .3618
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.55 CRITERION= .3015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1682
 HT FLOW CONVERGENCE VALUE= .1517 CRITERION= .2981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 93
 *** TIME = .149145E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1726E-05 OSCILLATION LIMIT = .3296
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.31 CRITERION= .3017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1509 CRITERION= .2978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 94
 *** TIME = .151055E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1870E-05 OSCILLATION LIMIT = .3571
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.55 CRITERION= .3014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1681
 HT FLOW CONVERGENCE VALUE= .1517 CRITERION= .2979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 95
 *** TIME = .152965E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1712E-05 OSCILLATION LIMIT = .3270
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.31 CRITERION= .3015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1664
 HT FLOW CONVERGENCE VALUE= .1509 CRITERION= .2976 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 96
 *** TIME = .154874E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1845E-05 OSCILLATION LIMIT = .3523
 *** AUTO STEP TIME: NEXT TIME INC = .19096E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.55 CRITERION= .3012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1681
 HT FLOW CONVERGENCE VALUE= .1518 CRITERION= .2977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 97
 *** TIME = .156784E+08 TIME INC = 190956.
 *** RESPONSE EIGENVALUE = .1700E-05 OSCILLATION LIMIT = .3246
 *** AUTO TIME STEP: NEXT TIME INC = .10046E+06 DECREASED (FACTOR = .5261)

HT FLOW CONVERGENCE VALUE= 24.33 CRITERION= .2987
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8756E-01
 HT FLOW CONVERGENCE VALUE= .7747E-01 CRITERION= .2975 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 98

*** TIME = .157788E+08 TIME INC = 100464.
 *** RESPONSE EIGENVALUE = .3770E-05 OSCILLATION LIMIT = .3787

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:01:43 JUN 10, 1995 CP= 5416.400
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.98 CRITERION= .2982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7653E-01
 HT FLOW CONVERGENCE VALUE= .6782E-01 CRITERION= .2977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 99
 *** TIME = .158793E+08 TIME INC = 100464.
 *** RESPONSE EIGENVALUE = .2919E-05 OSCILLATION LIMIT = .2933
 *** AUTO STEP TIME: NEXT TIME INC = .10046E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.73 CRITERION= .2984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7463E-01
 HT FLOW CONVERGENCE VALUE= .6669E-01 CRITERION= .2974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 100
 *** TIME = .159798E+08 TIME INC = 100464.
 *** RESPONSE EIGENVALUE = .3035E-05 OSCILLATION LIMIT = .3049
 *** AUTO STEP TIME: NEXT TIME INC = .10046E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.97 CRITERION= .2981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7645E-01
 HT FLOW CONVERGENCE VALUE= .6824E-01 CRITERION= .2976 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 101
 *** TIME = .160802E+08 TIME INC = 100464.
 *** RESPONSE EIGENVALUE = .2625E-05 OSCILLATION LIMIT = .2637
 *** AUTO TIME STEP: NEXT TIME INC = .19048E+06 INCREASED (FACTOR = 1.8960)

HT FLOW CONVERGENCE VALUE= 39.37 CRITERION= .3002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1415
 HT FLOW CONVERGENCE VALUE= .1290 CRITERION= .2972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 102
 *** TIME = .162707E+08 TIME INC = 190475.
 *** RESPONSE EIGENVALUE = .1521E-05 OSCILLATION LIMIT = .2896
 *** AUTO TIME STEP: NEXT TIME INC = .32883E+06 INCREASED (FACTOR = 1.7263)

HT FLOW CONVERGENCE VALUE= 68.27 CRITERION= .3050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2456
 HT FLOW CONVERGENCE VALUE= .2253 CRITERION= .2974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 103
 *** TIME = .165995E+08 TIME INC = 328827.
 *** RESPONSE EIGENVALUE = .1210E-05 OSCILLATION LIMIT = .3980
 *** AUTO STEP TIME: NEXT TIME INC = .32883E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.03 CRITERION= .3050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2443
 HT FLOW CONVERGENCE VALUE= .2202 CRITERION= .2970 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 104
 *** TIME = .169284E+08 TIME INC = 328827.
 *** RESPONSE EIGENVALUE = .1896E-05 OSCILLATION LIMIT = .6233
 *** AUTO STEP TIME: NEXT TIME INC = .32883E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.27 CRITERION= .3047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2456
 HT FLOW CONVERGENCE VALUE= .2211 CRITERION= .2971 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 105
*** TIME = .172572E+08 TIME INC = 328827.
*** RESPONSE EIGENVALUE = .1842E-05 OSCILLATION LIMIT = .6056
*** AUTO STEP TIME: NEXT TIME INC = .32883E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.03 CRITERION= .3048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2443
HT FLOW CONVERGENCE VALUE= .2200 CRITERION= .2967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 106
*** TIME = .175860E+08 TIME INC = 328827.
*** RESPONSE EIGENVALUE = .1843E-05 OSCILLATION LIMIT = .6061
*** AUTO STEP TIME: NEXT TIME INC = .32883E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.27 CRITERION= .3044
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2456
HT FLOW CONVERGENCE VALUE= .2210 CRITERION= .2968 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 107
*** TIME = .179148E+08 TIME INC = 328827.
*** RESPONSE EIGENVALUE = .1824E-05 OSCILLATION LIMIT = .5997
*** AUTO STEP TIME: NEXT TIME INC = .32883E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.03 CRITERION= .3045
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2443
HT FLOW CONVERGENCE VALUE= .2195 CRITERION= .2964 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 108
*** TIME = .182437E+08 TIME INC = 328827.
*** RESPONSE EIGENVALUE = .1846E-05 OSCILLATION LIMIT = .6069
*** AUTO STEP TIME: NEXT TIME INC = .32883E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.27 CRITERION= .3041
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2456
HT FLOW CONVERGENCE VALUE= .2209 CRITERION= .2965 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 109
*** TIME = .185725E+08 TIME INC = 328827.
*** RESPONSE EIGENVALUE = .1811E-05 OSCILLATION LIMIT = .5954
*** AUTO TIME STEP: NEXT TIME INC = .18105E+06 DECREASED (FACTOR = .5506)

HT FLOW CONVERGENCE VALUE= 37.42 CRITERION= .2988
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1345
HT FLOW CONVERGENCE VALUE= .1177 CRITERION= .2962 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 110
*** TIME = .187535E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .3338E-05 OSCILLATION LIMIT = .6044
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.66 CRITERION= .2985
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1358
HT FLOW CONVERGENCE VALUE= .1205 CRITERION= .2963 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 111
*** TIME = .189346E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2281E-05 OSCILLATION LIMIT = .4130

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:15:35 JUN 10, 1995 CP= 6238.160
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 32.50 CRITERION= .2981

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
HT FLOW CONVERGENCE VALUE= .1052 CRITERION= .2960 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 112
*** TIME = .191156E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .1934E-05 OSCILLATION LIMIT = .3502
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.73 CRITERION= .2978
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1182
HT FLOW CONVERGENCE VALUE= .1039 CRITERION= .2962 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 113
*** TIME = .192967E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2745E-05 OSCILLATION LIMIT = .4970
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.50 CRITERION= .2979
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
HT FLOW CONVERGENCE VALUE= .1046 CRITERION= .2959 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 114
*** TIME = .194777E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2069E-05 OSCILLATION LIMIT = .3745
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.72 CRITERION= .2977
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1182
HT FLOW CONVERGENCE VALUE= .1048 CRITERION= .2960 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 115
*** TIME = .196588E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2391E-05 OSCILLATION LIMIT = .4330
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.50 CRITERION= .2978
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
HT FLOW CONVERGENCE VALUE= .1040 CRITERION= .2957 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 116
*** TIME = .198399E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2237E-05 OSCILLATION LIMIT = .4050
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.72 CRITERION= .2975
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1182
HT FLOW CONVERGENCE VALUE= .1049 CRITERION= .2958 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 117
*** TIME = .200209E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2279E-05 OSCILLATION LIMIT = .4125
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.50 CRITERION= .2976
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
HT FLOW CONVERGENCE VALUE= .1039 CRITERION= .2956 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 118
*** TIME = .202020E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2274E-05 OSCILLATION LIMIT = .4118
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.72 CRITERION= .2974
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1182
HT FLOW CONVERGENCE VALUE= .1050 CRITERION= .2957 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 119
*** TIME = .203830E+08 TIME INC = 181053.
*** RESPONSE EIGENVALUE = .2237E-05 OSCILLATION LIMIT = .4050
*** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 32.50 CRITERION= .2975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
 HT FLOW CONVERGENCE VALUE= .1038 CRITERION= .2954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 120
 *** TIME = .205641E+08 TIME INC = 181053.
 *** RESPONSE EIGENVALUE = .2274E-05 OSCILLATION LIMIT = .4118
 *** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.72 CRITERION= .2972
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1181
 HT FLOW CONVERGENCE VALUE= .1050 CRITERION= .2955 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 121
 *** TIME = .207451E+08 TIME INC = 181053.
 *** RESPONSE EIGENVALUE = .2216E-05 OSCILLATION LIMIT = .4012
 *** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.50 CRITERION= .2973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
 HT FLOW CONVERGENCE VALUE= .1038 CRITERION= .2953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 122
 *** TIME = .209262E+08 TIME INC = 181053.
 *** RESPONSE EIGENVALUE = .2264E-05 OSCILLATION LIMIT = .4099
 *** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.72 CRITERION= .2971
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1181
 HT FLOW CONVERGENCE VALUE= .1049 CRITERION= .2954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 123
 *** TIME = .211072E+08 TIME INC = 181053.
 *** RESPONSE EIGENVALUE = .2201E-05 OSCILLATION LIMIT = .3985
 *** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.51 CRITERION= .2972
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
 HT FLOW CONVERGENCE VALUE= .1036 CRITERION= .2951 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 124
 *** TIME = .212883E+08 TIME INC = 181053.
 *** RESPONSE EIGENVALUE = .2251E-05 OSCILLATION LIMIT = .4076
 *** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.72 CRITERION= .2969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1181
 HT FLOW CONVERGENCE VALUE= .1048 CRITERION= .2952 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 125
 *** TIME = .214693E+08 TIME INC = 181053.
 *** RESPONSE EIGENVALUE = .2189E-05 OSCILLATION LIMIT = .3963
 *** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.51 CRITERION= .2970
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1171
 HT FLOW CONVERGENCE VALUE= .1036 CRITERION= .2949 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 126
 *** TIME = .216504E+08 TIME INC = 181053.
 *** RESPONSE EIGENVALUE = .2238E-05 OSCILLATION LIMIT = .4052
 *** AUTO STEP TIME: NEXT TIME INC = .18105E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.72 CRITERION= .2967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1180
 HT FLOW CONVERGENCE VALUE= .1048 CRITERION= .2950 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 127
 *** TIME = .218314E+08 TIME INC = 181053.

*** RESPONSE EIGENVALUE = .2177E-05 OSCILLATION LIMIT = .3942
 *** AUTO TIME STEP: NEXT TIME INC = .12946E+06 DECREASED (FACTOR = .7150)

HT FLOW CONVERGENCE VALUE= 23.22 CRITERION= .2960
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8372E-01
 HT FLOW CONVERGENCE VALUE= .7318E-01 CRITERION= .2948 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 128
 *** TIME = .219609E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .3015E-05 OSCILLATION LIMIT = .3903
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.44 CRITERION= .2957
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8472E-01
 HT FLOW CONVERGENCE VALUE= .7466E-01 CRITERION= .2949 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 129
 *** TIME = .220904E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2563E-05 OSCILLATION LIMIT = .3319

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:34:46 JUN 10, 1995 CP= 7373.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .2956
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6415E-01 CRITERION= .2947 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 130
 *** TIME = .222198E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2419E-05 OSCILLATION LIMIT = .3132
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7283E-01
 HT FLOW CONVERGENCE VALUE= .6368E-01 CRITERION= .2948 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 131
 *** TIME = .223493E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .3197E-05 OSCILLATION LIMIT = .4139
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.04 CRITERION= .2955
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6354E-01 CRITERION= .2946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 132
 *** TIME = .224787E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2634E-05 OSCILLATION LIMIT = .3410
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2953
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7282E-01
 HT FLOW CONVERGENCE VALUE= .6418E-01 CRITERION= .2947 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 133
 *** TIME = .226082E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2808E-05 OSCILLATION LIMIT = .3636
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6334E-01 CRITERION= .2945 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 134
 *** TIME = .227377E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2767E-05 OSCILLATION LIMIT = .3583
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7279E-01
 HT FLOW CONVERGENCE VALUE= .6422E-01 CRITERION= .2946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 135
 *** TIME = .228671E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2720E-05 OSCILLATION LIMIT = .3522
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2953
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6328E-01 CRITERION= .2944 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 136
 *** TIME = .229966E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2767E-05 OSCILLATION LIMIT = .3582
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7276E-01
 HT FLOW CONVERGENCE VALUE= .6414E-01 CRITERION= .2945 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 137
 *** TIME = .231260E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2686E-05 OSCILLATION LIMIT = .3477
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6319E-01 CRITERION= .2943 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 138
 *** TIME = .232555E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2746E-05 OSCILLATION LIMIT = .3555
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7272E-01
 HT FLOW CONVERGENCE VALUE= .6409E-01 CRITERION= .2944 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 139
 *** TIME = .233850E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2660E-05 OSCILLATION LIMIT = .3444
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6310E-01 CRITERION= .2942 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 140
 *** TIME = .235144E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2723E-05 OSCILLATION LIMIT = .3525
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2949
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7269E-01
 HT FLOW CONVERGENCE VALUE= .6399E-01 CRITERION= .2943 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 141
 *** TIME = .236439E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2637E-05 OSCILLATION LIMIT = .3414
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01

HT FLOW CONVERGENCE VALUE= .6318E-01 CRITERION= .2941 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 142
 *** TIME = .237733E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2699E-05 OSCILLATION LIMIT = .3495
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2948
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7266E-01
 HT FLOW CONVERGENCE VALUE= .6405E-01 CRITERION= .2942 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 143
 *** TIME = .239028E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2616E-05 OSCILLATION LIMIT = .3386
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2948
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6316E-01 CRITERION= .2940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 144
 *** TIME = .240322E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2677E-05 OSCILLATION LIMIT = .3466
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2947
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7263E-01
 HT FLOW CONVERGENCE VALUE= .6401E-01 CRITERION= .2941 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 145
 *** TIME = .241617E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2597E-05 OSCILLATION LIMIT = .3362
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2947
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6314E-01 CRITERION= .2939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 146
 *** TIME = .242912E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2657E-05 OSCILLATION LIMIT = .3440
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2946
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7260E-01
 HT FLOW CONVERGENCE VALUE= .6397E-01 CRITERION= .2939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 147
 *** TIME = .244206E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2580E-05 OSCILLATION LIMIT = .3340
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2946
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6313E-01 CRITERION= .2938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 148
 *** TIME = .245501E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2638E-05 OSCILLATION LIMIT = .3415
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7257E-01
 HT FLOW CONVERGENCE VALUE= .6393E-01 CRITERION= .2938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 149
 *** TIME = .246795E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2563E-05 OSCILLATION LIMIT = .3319
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2945
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6311E-01 CRITERION= .2936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 150
 *** TIME = .248090E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2619E-05 OSCILLATION LIMIT = .3391
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7254E-01
 HT FLOW CONVERGENCE VALUE= .6389E-01 CRITERION= .2937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 151
 *** TIME = .249385E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2548E-05 OSCILLATION LIMIT = .3299
 *** AUTO STEP TIME: NEXT TIME INC = .12946E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.05 CRITERION= .2944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7188E-01
 HT FLOW CONVERGENCE VALUE= .6309E-01 CRITERION= .2935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 152
 *** TIME = .250679E+08 TIME INC = 129460.
 *** RESPONSE EIGENVALUE = .2602E-05 OSCILLATION LIMIT = .3368
 *** AUTO STEP TIME: NEXT TIME INC = 89091. DECREASED (FACTOR = .6882)

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5018E-01
 HT FLOW CONVERGENCE VALUE= .4366E-01 CRITERION= .2936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 153
 *** TIME = .251570E+08 TIME INC = 89091.5
 *** RESPONSE EIGENVALUE = .3455E-05 OSCILLATION LIMIT = .3078
 *** AUTO STEP TIME: NEXT TIME INC = 89091. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.78 CRITERION= .2940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4947E-01
 HT FLOW CONVERGENCE VALUE= .4298E-01 CRITERION= .2935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 154
 *** TIME = .252461E+08 TIME INC = 89091.5
 *** RESPONSE EIGENVALUE = .3242E-05 OSCILLATION LIMIT = .2889

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:01:24 JUN 10, 1995 CP= 8947.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package With 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 12.65 CRITERION= .2937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4560E-01
 HT FLOW CONVERGENCE VALUE= .4017E-01 CRITERION= .2936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 155
 *** TIME = .253352E+08 TIME INC = 89091.5
 *** RESPONSE EIGENVALUE = .2792E-05 OSCILLATION LIMIT = .2488
 *** AUTO STEP TIME: NEXT TIME INC = 89091. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.47 CRITERION= .2938
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4481E-01
 HT FLOW CONVERGENCE VALUE= .3865E-01 CRITERION= .2934 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 156
 *** TIME = .254243E+08 TIME INC = 89091.5
 *** RESPONSE EIGENVALUE = .3657E-05 OSCILLATION LIMIT = .3258

*** AUTO STEP TIME: NEXT TIME INC = 89091. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.65 CRITERION= .2937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4551E-01
 HT FLOW CONVERGENCE VALUE= .3973E-01 CRITERION= .2935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 157
 *** TIME = .255134E+08 TIME INC = 89091.5
 *** RESPONSE EIGENVALUE = .3113E-05 OSCILLATION LIMIT = .2774
 *** AUTO STEP TIME: NEXT TIME INC = .16059E+06 INCREASED (FACTOR = 1.8026)

HT FLOW CONVERGENCE VALUE= 22.52 CRITERION= .2944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
 HT FLOW CONVERGENCE VALUE= .7116E-01 CRITERION= .2933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 158
 *** TIME = .256740E+08 TIME INC = 160595.
 *** RESPONSE EIGENVALUE = .2176E-05 OSCILLATION LIMIT = .3495
 *** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8144E-01
 HT FLOW CONVERGENCE VALUE= .7155E-01 CRITERION= .2934 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 159
 *** TIME = .258346E+08 TIME INC = 160595.
 *** RESPONSE EIGENVALUE = .2481E-05 OSCILLATION LIMIT = .3984
 *** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.53 CRITERION= .2942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
 HT FLOW CONVERGENCE VALUE= .7013E-01 CRITERION= .2932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 160
 *** TIME = .259952E+08 TIME INC = 160595.
 *** RESPONSE EIGENVALUE = .2921E-05 OSCILLATION LIMIT = .4691
 *** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8139E-01
 HT FLOW CONVERGENCE VALUE= .7120E-01 CRITERION= .2932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 161
 *** TIME = .261558E+08 TIME INC = 160595.
 *** RESPONSE EIGENVALUE = .2601E-05 OSCILLATION LIMIT = .4178
 *** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.53 CRITERION= .2941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
 HT FLOW CONVERGENCE VALUE= .7028E-01 CRITERION= .2930 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 162
 *** TIME = .263164E+08 TIME INC = 160595.
 *** RESPONSE EIGENVALUE = .2788E-05 OSCILLATION LIMIT = .4477
 *** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.70 CRITERION= .2939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8136E-01
 HT FLOW CONVERGENCE VALUE= .7109E-01 CRITERION= .2931 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 163
 *** TIME = .264770E+08 TIME INC = 160595.
 *** RESPONSE EIGENVALUE = .2652E-05 OSCILLATION LIMIT = .4260
 *** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.53 CRITERION= .2940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
 HT FLOW CONVERGENCE VALUE= .7029E-01 CRITERION= .2929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 164

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*** TIME = .266375E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2747E-05    OSCILLATION LIMIT = .4412
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2938
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8134E-01
    HT FLOW CONVERGENCE VALUE= .7100E-01    CRITERION= .2930    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 165
*** TIME = .267981E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2660E-05    OSCILLATION LIMIT = .4271
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.53    CRITERION= .2938
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
    HT FLOW CONVERGENCE VALUE= .7026E-01    CRITERION= .2928    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 166
*** TIME = .269587E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2728E-05    OSCILLATION LIMIT = .4382
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2936
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8132E-01
    HT FLOW CONVERGENCE VALUE= .7094E-01    CRITERION= .2928    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 167
*** TIME = .271193E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2657E-05    OSCILLATION LIMIT = .4266
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.53    CRITERION= .2937
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
    HT FLOW CONVERGENCE VALUE= .7023E-01    CRITERION= .2926    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 168
*** TIME = .272799E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2716E-05    OSCILLATION LIMIT = .4361
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2935
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8130E-01
    HT FLOW CONVERGENCE VALUE= .7085E-01    CRITERION= .2927    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 169
*** TIME = .274405E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2651E-05    OSCILLATION LIMIT = .4257
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.53    CRITERION= .2936
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
    HT FLOW CONVERGENCE VALUE= .7013E-01    CRITERION= .2925    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 170
*** TIME = .276011E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2705E-05    OSCILLATION LIMIT = .4344
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.70    CRITERION= .2934
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8128E-01
    HT FLOW CONVERGENCE VALUE= .7077E-01    CRITERION= .2926    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 171
*** TIME = .277617E+08    TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2644E-05    OSCILLATION LIMIT = .4247
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 22.53    CRITERION= .2934
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
    HT FLOW CONVERGENCE VALUE= .7016E-01    CRITERION= .2924    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 172
*** TIME = .279223E+08 TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2695E-05 OSCILLATION LIMIT = .4328
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.69 CRITERION= .2932
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8127E-01
HT FLOW CONVERGENCE VALUE= .7076E-01 CRITERION= .2924 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 173
*** TIME = .280829E+08 TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2637E-05 OSCILLATION LIMIT = .4235
*** AUTO STEP TIME: NEXT TIME INC = .16059E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.53 CRITERION= .2933
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8078E-01
HT FLOW CONVERGENCE VALUE= .7012E-01 CRITERION= .2922 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 174
*** TIME = .282435E+08 TIME INC = 160595.
*** RESPONSE EIGENVALUE = .2685E-05 OSCILLATION LIMIT = .4313
*** AUTO TIME STEP: NEXT TIME INC = .15838E+06 DECREASED (FACTOR = .9862)

HT FLOW CONVERGENCE VALUE= 22.38 CRITERION= .2931
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8014E-01
HT FLOW CONVERGENCE VALUE= .6965E-01 CRITERION= .2923 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 175
*** TIME = .284019E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2655E-05 OSCILLATION LIMIT = .4205
Apply loads and solve for 1 to 9 years

*DO LOOP ON PARAMETER= TM FROM .31558E+08 TO .28402E+09 BY .31558E+08
TIME= .31558E+08

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5654.64534 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 123.63 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 124.68 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP

```

VALUES = 127.28 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 10270.540 TIME= 23:23:50
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=MP 9000/7XX 23:23:50 JUN 10, 1995 CP= 10270.540
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 13
TIME AT END OF THE LOAD STEP.31558E+08
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 20.59 CRITERION= .2930
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
HT FLOW CONVERGENCE VALUE= .6399E-01 CRITERION= .2921 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 176
*** TIME = .285602E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2803E-05 OSCILLATION LIMIT = .4439
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2929
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7425E-01
HT FLOW CONVERGENCE VALUE= .6455E-01 CRITERION= .2922 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 177
*** TIME = .287186E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .3043E-05 OSCILLATION LIMIT = .4819
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.59 CRITERION= .2929
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
HT FLOW CONVERGENCE VALUE= .6449E-01 CRITERION= .2920 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 178
*** TIME = .288770E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2807E-05 OSCILLATION LIMIT = .4446
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2927
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7425E-01
 HT FLOW CONVERGENCE VALUE= .6512E-01 CRITERION= .2920 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 179
 *** TIME = .290354E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2898E-05 OSCILLATION LIMIT = .4589
 *** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.59 CRITERION= .2928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
 HT FLOW CONVERGENCE VALUE= .6470E-01 CRITERION= .2919 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 180
 *** TIME = .291938E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2874E-05 OSCILLATION LIMIT = .4552
 *** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2926
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7424E-01
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .2919 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 181
 *** TIME = .293521E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2853E-05 OSCILLATION LIMIT = .4518
 *** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.59 CRITERION= .2926
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
 HT FLOW CONVERGENCE VALUE= .6471E-01 CRITERION= .2917 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 182
 *** TIME = .295105E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2884E-05 OSCILLATION LIMIT = .4568
 *** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2925
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7423E-01
 HT FLOW CONVERGENCE VALUE= .6514E-01 CRITERION= .2918 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 183
 *** TIME = .296689E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2837E-05 OSCILLATION LIMIT = .4492
 *** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.59 CRITERION= .2925
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
 HT FLOW CONVERGENCE VALUE= .6467E-01 CRITERION= .2916 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 184
 *** TIME = .298273E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2881E-05 OSCILLATION LIMIT = .4562
 *** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2923
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7421E-01
 HT FLOW CONVERGENCE VALUE= .6523E-01 CRITERION= .2916 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 185
 *** TIME = .299857E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2827E-05 OSCILLATION LIMIT = .4478
 *** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.59 CRITERION= .2924
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
 HT FLOW CONVERGENCE VALUE= .6490E-01 CRITERION= .2915 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 186
 *** TIME = .301440E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2875E-05 OSCILLATION LIMIT = .4554

*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2922
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7420E-01
HT FLOW CONVERGENCE VALUE= .6544E-01 CRITERION= .2915 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 187
*** TIME = .303024E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2822E-05 OSCILLATION LIMIT = .4469
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.59 CRITERION= .2922
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
HT FLOW CONVERGENCE VALUE= .6499E-01 CRITERION= .2914 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 188
*** TIME = .304608E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2871E-05 OSCILLATION LIMIT = .4547
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7419E-01
HT FLOW CONVERGENCE VALUE= .6540E-01 CRITERION= .2914 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 189
*** TIME = .306192E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2816E-05 OSCILLATION LIMIT = .4459
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.60 CRITERION= .2921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
HT FLOW CONVERGENCE VALUE= .6498E-01 CRITERION= .2912 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 190
*** TIME = .307775E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2865E-05 OSCILLATION LIMIT = .4538
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2920
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7418E-01
HT FLOW CONVERGENCE VALUE= .6540E-01 CRITERION= .2912 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 191
*** TIME = .309359E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2810E-05 OSCILLATION LIMIT = .4451
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.60 CRITERION= .2920
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
HT FLOW CONVERGENCE VALUE= .6497E-01 CRITERION= .2911 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 192
*** TIME = .310943E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2860E-05 OSCILLATION LIMIT = .4530
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.75 CRITERION= .2918
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7417E-01
HT FLOW CONVERGENCE VALUE= .6535E-01 CRITERION= .2911 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 193
*** TIME = .312527E+08 TIME INC = 158378.
*** RESPONSE EIGENVALUE = .2804E-05 OSCILLATION LIMIT = .4442
*** AUTO STEP TIME: NEXT TIME INC = .15838E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.60 CRITERION= .2918
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7394E-01
HT FLOW CONVERGENCE VALUE= .6495E-01 CRITERION= .2910 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 194

*** TIME = .314111E+08 TIME INC = 158378.
 *** RESPONSE EIGENVALUE = .2853E-05 OSCILLATION LIMIT = .4519
 *** AUTO TIME STEP: NEXT TIME INC = .14658E+06 DECREASED (FACTOR = .9255)

HT FLOW CONVERGENCE VALUE= 19.21 CRITERION= .2916
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6867E-01
 HT FLOW CONVERGENCE VALUE= .6037E-01 CRITERION= .2910 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 195
 *** TIME = .315576E+08 TIME INC = 146575.
 *** RESPONSE EIGENVALUE = .2938E-05 OSCILLATION LIMIT = .4307

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:45:07 JUN 10, 1995 CP= 11531.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .3001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2344 CRITERION= .2907 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 196
 *** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1930E-05 OSCILLATION LIMIT = 1.523
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2268 CRITERION= .2905 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 197
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3639E-05 OSCILLATION LIMIT = 2.871
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2280 CRITERION= .2901 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 198
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3275E-05 OSCILLATION LIMIT = 2.584
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2294 CRITERION= .2899 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 199
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3477E-05 OSCILLATION LIMIT = 2.743
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2990
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2313 CRITERION= .2896 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 200
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3296E-05 OSCILLATION LIMIT = 2.601
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2987


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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2334 CRITERION= .2894 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 201
*** TIME = .362913E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3440E-05 OSCILLATION LIMIT = 2.714
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2985
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2374 CRITERION= .2891 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 202
*** TIME = .370802E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3307E-05 OSCILLATION LIMIT = 2.609
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2982
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2386 CRITERION= .2889 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 203
*** TIME = .378692E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3412E-05 OSCILLATION LIMIT = 2.692
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2980
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2397 CRITERION= .2885 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 204
*** TIME = .386581E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3319E-05 OSCILLATION LIMIT = 2.618
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2977
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2390 CRITERION= .2883 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 205
*** TIME = .394470E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3393E-05 OSCILLATION LIMIT = 2.677
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2975
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2390 CRITERION= .2880 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 206
*** TIME = .402360E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3323E-05 OSCILLATION LIMIT = 2.622
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2972
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2384 CRITERION= .2878 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 207
*** TIME = .410249E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3372E-05 OSCILLATION LIMIT = 2.660
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2969
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2383 CRITERION= .2874 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 208
*** TIME = .418139E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3322E-05 OSCILLATION LIMIT = 2.621
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2378 CRITERION= .2872 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 209
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3354E-05 OSCILLATION LIMIT = 2.646
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2376 CRITERION= .2869 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 210
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3319E-05 OSCILLATION LIMIT = 2.619
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2961
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2372 CRITERION= .2867 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 211
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3337E-05 OSCILLATION LIMIT = 2.633
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2959
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2370 CRITERION= .2864 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 212
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3314E-05 OSCILLATION LIMIT = 2.615
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2956
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2366 CRITERION= .2862 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 213
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3322E-05 OSCILLATION LIMIT = 2.621
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2363 CRITERION= .2858 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 214
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3308E-05 OSCILLATION LIMIT = 2.610
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2951
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2360 CRITERION= .2856 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 215
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3308E-05 OSCILLATION LIMIT = 2.610
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2949
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2357 CRITERION= .2853 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 216
 *** TIME = .481254E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .3301E-05  OSCILLATION LIMIT = 2.604
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.36  CRITERION= .2946
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2354  CRITERION= .2851  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 217
*** TIME = .489143E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3295E-05  OSCILLATION LIMIT = 2.600
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.23  CRITERION= .2943
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2351  CRITERION= .2848  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 218
*** TIME = .497033E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3293E-05  OSCILLATION LIMIT = 2.598
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.36  CRITERION= .2940
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2347  CRITERION= .2845  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 219
*** TIME = .504922E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3283E-05  OSCILLATION LIMIT = 2.590
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.23  CRITERION= .2938
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2345  CRITERION= .2842  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 220
*** TIME = .512811E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3285E-05  OSCILLATION LIMIT = 2.592
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.36  CRITERION= .2935
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2343  CRITERION= .2840  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 221
*** TIME = .520701E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3271E-05  OSCILLATION LIMIT = 2.581
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.23  CRITERION= .2933
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2342  CRITERION= .2837  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 222
*** TIME = .528590E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3277E-05  OSCILLATION LIMIT = 2.585
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.36  CRITERION= .2930
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2339  CRITERION= .2835  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 223
*** TIME = .536480E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3260E-05  OSCILLATION LIMIT = 2.572
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 73.23  CRITERION= .2928
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
  HT FLOW CONVERGENCE VALUE= .2336  CRITERION= .2831  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 224
*** TIME = .544369E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3268E-05 OSCILLATION LIMIT = 2.578
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2925
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2333 CRITERION= .2829 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 225
*** TIME = .552258E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3249E-05 OSCILLATION LIMIT = 2.564
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2923
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2329 CRITERION= .2826 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 226
*** TIME = .560148E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3259E-05 OSCILLATION LIMIT = 2.571
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2919
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2327 CRITERION= .2824 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 227
*** TIME = .568037E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3238E-05 OSCILLATION LIMIT = 2.555
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2917
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2325 CRITERION= .2821 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 228
*** TIME = .575927E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3250E-05 OSCILLATION LIMIT = 2.564
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2914
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2323 CRITERION= .2819 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 229
*** TIME = .583816E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3229E-05 OSCILLATION LIMIT = 2.548
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2912
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2320 CRITERION= .2815 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 230
*** TIME = .591705E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3241E-05 OSCILLATION LIMIT = 2.557
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2909
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .2318 CRITERION= .2813 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 231
*** TIME = .599595E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3219E-05 OSCILLATION LIMIT = 2.540
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2907
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631

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HT FLOW CONVERGENCE VALUE= .2316 CRITERION= .2810 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 232
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3232E-05 OSCILLATION LIMIT = 2.550
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2904
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2316 CRITERION= .2808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 233
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3210E-05 OSCILLATION LIMIT = 2.532
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.23 CRITERION= .2902
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2313 CRITERION= .2805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 234
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3224E-05 OSCILLATION LIMIT = 2.543
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.36 CRITERION= .2899
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .2313 CRITERION= .2802 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 235
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3200E-05 OSCILLATION LIMIT = 2.525

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:27:40 JUN 11, 1995 CP= 14045.980
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2843
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1465 CRITERION= .2800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 236
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5701E-05 OSCILLATION LIMIT = 4.497
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2841
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1459 CRITERION= .2798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 237
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5472E-05 OSCILLATION LIMIT = 4.317
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1488 CRITERION= .2795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 238
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4311E-05 OSCILLATION LIMIT = 3.401
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2836
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1461 CRITERION= .2793 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 239
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5393E-05 OSCILLATION LIMIT = 4.255
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2834
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1484 CRITERION= .2791 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 240
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4431E-05 OSCILLATION LIMIT = 3.496
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2832
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1461 CRITERION= .2789 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 241
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5254E-05 OSCILLATION LIMIT = 4.145
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2830
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1478 CRITERION= .2786 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 242
 *** TIME = .686378E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4525E-05 OSCILLATION LIMIT = 3.570
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2827
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1460 CRITERION= .2784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 243
 *** TIME = .694268E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5147E-05 OSCILLATION LIMIT = 4.061
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2825
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1473 CRITERION= .2781 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 244
 *** TIME = .702157E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4595E-05 OSCILLATION LIMIT = 3.625
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2823
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1458 CRITERION= .2779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 245
 *** TIME = .710046E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5064E-05 OSCILLATION LIMIT = 3.996
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2821
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1469 CRITERION= .2777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 246
 *** TIME = .717936E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4647E-05 OSCILLATION LIMIT = 3.666

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2818
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1456 CRITERION= .2775 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 247
*** TIME = .725825E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4999E-05 OSCILLATION LIMIT = 3.944
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2816
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1465 CRITERION= .2772 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 248
*** TIME = .733715E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4684E-05 OSCILLATION LIMIT = 3.695
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1455 CRITERION= .2770 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 249
*** TIME = .741604E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4947E-05 OSCILLATION LIMIT = 3.903
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2812
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1462 CRITERION= .2768 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 250
*** TIME = .749493E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4710E-05 OSCILLATION LIMIT = 3.716
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2809
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1454 CRITERION= .2766 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 251
*** TIME = .757383E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4904E-05 OSCILLATION LIMIT = 3.869
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2807
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1460 CRITERION= .2763 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 252
*** TIME = .765272E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4728E-05 OSCILLATION LIMIT = 3.730
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2805
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1453 CRITERION= .2761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 253
*** TIME = .773162E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4869E-05 OSCILLATION LIMIT = 3.842
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2803
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1457 CRITERION= .2758 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 254

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*** TIME = .781051E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4738E-05    OSCILLATION LIMIT = 3.738
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.21    CRITERION= .2800
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1451    CRITERION= .2756    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 255
*** TIME = .788940E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4841E-05    OSCILLATION LIMIT = 3.819
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.09    CRITERION= .2798
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1454    CRITERION= .2754    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 256
*** TIME = .796830E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4745E-05    OSCILLATION LIMIT = 3.744
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.21    CRITERION= .2795
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1448    CRITERION= .2752    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 257
*** TIME = .804719E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4817E-05    OSCILLATION LIMIT = 3.800
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.09    CRITERION= .2794
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1450    CRITERION= .2749    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 258
*** TIME = .812609E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4748E-05    OSCILLATION LIMIT = 3.746
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.21    CRITERION= .2791
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1445    CRITERION= .2747    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 259
*** TIME = .820498E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4796E-05    OSCILLATION LIMIT = 3.784
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.09    CRITERION= .2789
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1447    CRITERION= .2745    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 260
*** TIME = .828387E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4748E-05    OSCILLATION LIMIT = 3.746
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.21    CRITERION= .2786
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1442    CRITERION= .2743    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 261
*** TIME = .836277E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4778E-05    OSCILLATION LIMIT = 3.769
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.09    CRITERION= .2784
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
    HT FLOW CONVERGENCE VALUE= .1444    CRITERION= .2740    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 262
*** TIME = .844166E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4746E-05 OSCILLATION LIMIT = 3.744
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2782
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1439 CRITERION= .2738 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 263
*** TIME = .852056E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4762E-05 OSCILLATION LIMIT = 3.757
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2780
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1441 CRITERION= .2735 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 264
*** TIME = .859945E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4742E-05 OSCILLATION LIMIT = 3.741
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.20 CRITERION= .2777
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1437 CRITERION= .2733 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 265
*** TIME = .867834E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4747E-05 OSCILLATION LIMIT = 3.745
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2775
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1438 CRITERION= .2731 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 266
*** TIME = .875724E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4737E-05 OSCILLATION LIMIT = 3.737
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.20 CRITERION= .2773
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1434 CRITERION= .2729 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 267
*** TIME = .883613E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4734E-05 OSCILLATION LIMIT = 3.734
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2771
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1435 CRITERION= .2726 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 268
*** TIME = .891503E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4731E-05 OSCILLATION LIMIT = 3.732
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.20 CRITERION= .2768
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1431 CRITERION= .2724 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 269
*** TIME = .899392E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4721E-05 OSCILLATION LIMIT = 3.724
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2766

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1432 CRITERION= .2722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 270
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4724E-05 OSCILLATION LIMIT = 3.727
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.20 CRITERION= .2764
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1428 CRITERION= .2720 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 271
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4709E-05 OSCILLATION LIMIT = 3.715
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2762
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1429 CRITERION= .2717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 272
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4716E-05 OSCILLATION LIMIT = 3.721
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.20 CRITERION= .2759
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1425 CRITERION= .2715 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 273
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4698E-05 OSCILLATION LIMIT = 3.706
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.09 CRITERION= .2757
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1426 CRITERION= .2712 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 274
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4708E-05 OSCILLATION LIMIT = 3.714
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.20 CRITERION= .2755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1426 CRITERION= .2711 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 275
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4686E-05 OSCILLATION LIMIT = 3.697

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:10:13 JUN 11, 1995 CP= 16559.440
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2737
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1112 CRITERION= .2708 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 276
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5810E-05 OSCILLATION LIMIT = 4.584
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2735
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1108 CRITERION= .2707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 277
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5681E-05 OSCILLATION LIMIT = 4.482
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1119 CRITERION= .2704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 278
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5145E-05 OSCILLATION LIMIT = 4.059
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2731
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1108 CRITERION= .2703 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 279
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5641E-05 OSCILLATION LIMIT = 4.451
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1118 CRITERION= .2700 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 280
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5200E-05 OSCILLATION LIMIT = 4.102
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2727
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1108 CRITERION= .2699 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 281
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5573E-05 OSCILLATION LIMIT = 4.397
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .2696 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 282
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5241E-05 OSCILLATION LIMIT = 4.135
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1107 CRITERION= .2695 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 283
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5519E-05 OSCILLATION LIMIT = 4.355
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1113 CRITERION= .2692 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 284
 *** TIME = .101773E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .5271E-05  OSCILLATION LIMIT = 4.159
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.06      CRITERION= .2719
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1106      CRITERION= .2691  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 285
*** TIME = .102562E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5476E-05  OSCILLATION LIMIT = 4.321
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.95      CRITERION= .2717
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1111      CRITERION= .2688  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 286
*** TIME = .103351E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5292E-05  OSCILLATION LIMIT = 4.175
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.06      CRITERION= .2715
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1105      CRITERION= .2687  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 287
*** TIME = .104140E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5441E-05  OSCILLATION LIMIT = 4.293
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.95      CRITERION= .2713
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1111      CRITERION= .2685  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 288
*** TIME = .104929E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5306E-05  OSCILLATION LIMIT = 4.186
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.06      CRITERION= .2711
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1108      CRITERION= .2683  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 289
*** TIME = .105718E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5412E-05  OSCILLATION LIMIT = 4.270
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.95      CRITERION= .2710
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1112      CRITERION= .2681  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 290
*** TIME = .106507E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5314E-05  OSCILLATION LIMIT = 4.193
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.06      CRITERION= .2707
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1110      CRITERION= .2679  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 291
*** TIME = .107296E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5388E-05  OSCILLATION LIMIT = 4.251
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.95      CRITERION= .2706
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .1116      CRITERION= .2677  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 292
*** TIME = .108085E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5319E-05 OSCILLATION LIMIT = 4.196
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2703
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .1111 CRITERION= .2675 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 293
*** TIME = .108874E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5367E-05 OSCILLATION LIMIT = 4.234
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2702
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .1115 CRITERION= .2673 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 294
*** TIME = .109663E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5320E-05 OSCILLATION LIMIT = 4.197
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2700
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .1112 CRITERION= .2671 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 295
*** TIME = .110452E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5349E-05 OSCILLATION LIMIT = 4.220
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2698
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .1118 CRITERION= .2669 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 296
*** TIME = .111241E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5319E-05 OSCILLATION LIMIT = 4.197
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2696
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .2667 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 297
*** TIME = .112030E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5333E-05 OSCILLATION LIMIT = 4.207
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .1119 CRITERION= .2665 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 298
*** TIME = .112818E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5316E-05 OSCILLATION LIMIT = 4.194
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2692
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .2663 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 299
*** TIME = .113607E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5318E-05 OSCILLATION LIMIT = 4.196
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368

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HT FLOW CONVERGENCE VALUE= .1120 CRITERION= .2661 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 300
 *** TIME = .114396E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5313E-05 OSCILLATION LIMIT = 4.191
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2688
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1117 CRITERION= .2659 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 301
 *** TIME = .115185E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5306E-05 OSCILLATION LIMIT = 4.186
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2686
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1120 CRITERION= .2657 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 302
 *** TIME = .115974E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5308E-05 OSCILLATION LIMIT = 4.187
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2684
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1117 CRITERION= .2655 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 303
 *** TIME = .116763E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5294E-05 OSCILLATION LIMIT = 4.176
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2682
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1119 CRITERION= .2653 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 304
 *** TIME = .117552E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5302E-05 OSCILLATION LIMIT = 4.183
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .2651 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 305
 *** TIME = .118341E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5282E-05 OSCILLATION LIMIT = 4.168
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1118 CRITERION= .2649 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 306
 *** TIME = .119130E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5295E-05 OSCILLATION LIMIT = 4.178
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2676
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1115 CRITERION= .2648 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 307
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5271E-05 OSCILLATION LIMIT = 4.159
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2675
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1117 CRITERION= .2645 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 308
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-05 OSCILLATION LIMIT = 4.172
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2672
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1114 CRITERION= .2644 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 309
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5261E-05 OSCILLATION LIMIT = 4.150
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2671
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .2641 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 310
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5280E-05 OSCILLATION LIMIT = 4.166
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2668
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1113 CRITERION= .2640 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 311
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5250E-05 OSCILLATION LIMIT = 4.142
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2667
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1114 CRITERION= .2637 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 312
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5273E-05 OSCILLATION LIMIT = 4.160
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2664
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1111 CRITERION= .2636 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 313
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5241E-05 OSCILLATION LIMIT = 4.135
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.95 CRITERION= .2663
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1112 CRITERION= .2633 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 314
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5265E-05 OSCILLATION LIMIT = 4.154
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.06 CRITERION= .2661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .1109 CRITERION= .2632 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 315
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5232E-05 OSCILLATION LIMIT = 4.127

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:52:41 JUN 11, 1995 CP= 19072.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .2651
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9431E-01 CRITERION= .2630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 316
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5209E-05 OSCILLATION LIMIT = 4.110
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2649
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9410E-01 CRITERION= .2629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 317
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5074E-05 OSCILLATION LIMIT = 4.003
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .2648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9468E-01 CRITERION= .2627 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 318
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4848E-05 OSCILLATION LIMIT = 3.825
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2646
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9405E-01 CRITERION= .2625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 319
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5056E-05 OSCILLATION LIMIT = 3.989
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .2645
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9458E-01 CRITERION= .2623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 320
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4871E-05 OSCILLATION LIMIT = 3.843
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2643
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9402E-01 CRITERION= .2622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 321
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5022E-05 OSCILLATION LIMIT = 3.962
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .2642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9446E-01 CRITERION= .2620 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 322


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*** TIME = .131753E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4887E-05    OSCILLATION LIMIT = 3.855
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.27    CRITERION= .2640
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9392E-01    CRITERION= .2619    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 323
*** TIME = .132542E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4994E-05    OSCILLATION LIMIT = 3.940
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.17    CRITERION= .2638
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9428E-01    CRITERION= .2617    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 324
*** TIME = .133331E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4897E-05    OSCILLATION LIMIT = 3.864
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.27    CRITERION= .2637
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9380E-01    CRITERION= .2616    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 325
*** TIME = .134120E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4971E-05    OSCILLATION LIMIT = 3.922
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.17    CRITERION= .2635
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9411E-01    CRITERION= .2614    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 326
*** TIME = .134909E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4904E-05    OSCILLATION LIMIT = 3.869
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.27    CRITERION= .2633
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9367E-01    CRITERION= .2612    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 327
*** TIME = .135698E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4952E-05    OSCILLATION LIMIT = 3.907
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.16    CRITERION= .2632
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9394E-01    CRITERION= .2610    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 328
*** TIME = .136487E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4908E-05    OSCILLATION LIMIT = 3.872
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.27    CRITERION= .2630
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9352E-01    CRITERION= .2609    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 329
*** TIME = .137276E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4935E-05    OSCILLATION LIMIT = 3.894
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.16    CRITERION= .2629
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
    HT FLOW CONVERGENCE VALUE= .9376E-01    CRITERION= .2607    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 330
*** TIME = .138065E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4909E-05 OSCILLATION LIMIT = 3.873
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2627
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .9336E-01 CRITERION= .2606 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 331
*** TIME = .138853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4921E-05 OSCILLATION LIMIT = 3.882
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2626
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .9359E-01 CRITERION= .2604 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 332
*** TIME = .139642E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4909E-05 OSCILLATION LIMIT = 3.873
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2624
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .9322E-01 CRITERION= .2603 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 333
*** TIME = .140431E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4909E-05 OSCILLATION LIMIT = 3.873
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2622
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .9344E-01 CRITERION= .2601 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 334
*** TIME = .141220E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4907E-05 OSCILLATION LIMIT = 3.872
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2621
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .9308E-01 CRITERION= .2599 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 335
*** TIME = .142009E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4899E-05 OSCILLATION LIMIT = 3.865
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2619
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .9329E-01 CRITERION= .2598 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 336
*** TIME = .142798E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4905E-05 OSCILLATION LIMIT = 3.870
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2617
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .9294E-01 CRITERION= .2596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 337
*** TIME = .143587E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4889E-05 OSCILLATION LIMIT = 3.857
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2616

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9313E-01 CRITERION= .2594 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 338
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4902E-05 OSCILLATION LIMIT = 3.867
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2614
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9279E-01 CRITERION= .2593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 339
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4880E-05 OSCILLATION LIMIT = 3.850
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2613
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9296E-01 CRITERION= .2591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 340
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4898E-05 OSCILLATION LIMIT = 3.864
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.27 CRITERION= .2611
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9264E-01 CRITERION= .2590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 341
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4872E-05 OSCILLATION LIMIT = 3.844
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2610
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9281E-01 CRITERION= .2588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 342
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4893E-05 OSCILLATION LIMIT = 3.860
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .2608
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9249E-01 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 343
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4864E-05 OSCILLATION LIMIT = 3.837
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2606
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9266E-01 CRITERION= .2585 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 344
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4888E-05 OSCILLATION LIMIT = 3.856
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .2605
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9235E-01 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 345
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4856E-05 OSCILLATION LIMIT = 3.831
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9251E-01 CRITERION= .2581 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 346
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4882E-05 OSCILLATION LIMIT = 3.852
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .2601
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9221E-01 CRITERION= .2580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 347
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4849E-05 OSCILLATION LIMIT = 3.825
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2600
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9236E-01 CRITERION= .2578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 348
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4877E-05 OSCILLATION LIMIT = 3.848
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .2598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9206E-01 CRITERION= .2577 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 349
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4842E-05 OSCILLATION LIMIT = 3.820
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.15 CRITERION= .2597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9221E-01 CRITERION= .2575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 350
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4871E-05 OSCILLATION LIMIT = 3.843
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .2595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9191E-01 CRITERION= .2574 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 351
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4835E-05 OSCILLATION LIMIT = 3.814
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.15 CRITERION= .2594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9205E-01 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 352
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4865E-05 OSCILLATION LIMIT = 3.838
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .2592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9176E-01 CRITERION= .2570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 353
 *** TIME = .156210E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4828E-05 OSCILLATION LIMIT = 3.809
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.15 CRITERION= .2590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9191E-01 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 354
 *** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4859E-05 OSCILLATION LIMIT = 3.833
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.26 CRITERION= .2589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .9162E-01 CRITERION= .2567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 355
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4821E-05 OSCILLATION LIMIT = 3.803

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:35:29 JUN 11, 1995 CP= 21585.520
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7390E-01 CRITERION= .2565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 356
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9130E-05 OSCILLATION LIMIT = 7.203
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7324E-01 CRITERION= .2563 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 357
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9278E-05 OSCILLATION LIMIT = 7.320
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7411E-01 CRITERION= .2561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 358
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8379E-05 OSCILLATION LIMIT = 6.610
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2576
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7319E-01 CRITERION= .2560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 359
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9191E-05 OSCILLATION LIMIT = 7.251
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7391E-01 CRITERION= .2557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 360
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8471E-05 OSCILLATION LIMIT = 6.683
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7313E-01 CRITERION= .2556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 361
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9088E-05 OSCILLATION LIMIT = 7.170
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7371E-01 CRITERION= .2554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 362
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8541E-05 OSCILLATION LIMIT = 6.739
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7304E-01 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 363
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9006E-05 OSCILLATION LIMIT = 7.105
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7353E-01 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 364
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8593E-05 OSCILLATION LIMIT = 6.780
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7295E-01 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 365
 *** TIME = .165677E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8942E-05 OSCILLATION LIMIT = 7.055
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2563
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7337E-01 CRITERION= .2546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 366
 *** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8631E-05 OSCILLATION LIMIT = 6.810
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7285E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 367
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8890E-05 OSCILLATION LIMIT = 7.014
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01

HT FLOW CONVERGENCE VALUE= .7321E-01 CRITERION= .2542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 368
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8659E-05 OSCILLATION LIMIT = 6.831
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7274E-01 CRITERION= .2541 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 369
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8849E-05 OSCILLATION LIMIT = 6.981
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7306E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 370
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8678E-05 OSCILLATION LIMIT = 6.846
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7264E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 371
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8815E-05 OSCILLATION LIMIT = 6.954
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .2551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7292E-01 CRITERION= .2535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 372
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8690E-05 OSCILLATION LIMIT = 6.856
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7252E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 373
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8786E-05 OSCILLATION LIMIT = 6.932
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7278E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 374
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8698E-05 OSCILLATION LIMIT = 6.862
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7241E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 375
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8763E-05 OSCILLATION LIMIT = 6.913
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7264E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 376
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8702E-05 OSCILLATION LIMIT = 6.865
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7229E-01 CRITERION= .2526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 377
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8742E-05 OSCILLATION LIMIT = 6.897
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7250E-01 CRITERION= .2523 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 378
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8702E-05 OSCILLATION LIMIT = 6.866
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7217E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 379
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8725E-05 OSCILLATION LIMIT = 6.883
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7237E-01 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 380
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8701E-05 OSCILLATION LIMIT = 6.865
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.23 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7205E-01 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 381
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8709E-05 OSCILLATION LIMIT = 6.871
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7224E-01 CRITERION= .2516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 382
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8698E-05 OSCILLATION LIMIT = 6.862
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.22 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7193E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 383
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8694E-05 OSCILLATION LIMIT = 6.859

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7211E-01 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 384
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8693E-05 OSCILLATION LIMIT = 6.858
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.22 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7181E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 385
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8681E-05 OSCILLATION LIMIT = 6.849
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7198E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 386
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8688E-05 OSCILLATION LIMIT = 6.854
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.22 CRITERION= .2523
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7168E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 387
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8669E-05 OSCILLATION LIMIT = 6.839
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7185E-01 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 388
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8681E-05 OSCILLATION LIMIT = 6.849
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.22 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7155E-01 CRITERION= .2503 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 389
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8658E-05 OSCILLATION LIMIT = 6.830
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12 CRITERION= .2517
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7171E-01 CRITERION= .2501 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 390
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8675E-05 OSCILLATION LIMIT = 6.844
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.22 CRITERION= .2515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .7143E-01 CRITERION= .2499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 391

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*** TIME = .186190E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8647E-05    OSCILLATION LIMIT = 6.822
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.12    CRITERION= .2514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .7158E-01    CRITERION= .2497    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 392
*** TIME = .186979E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8668E-05    OSCILLATION LIMIT = 6.838
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 27.22    CRITERION= .2512
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .7130E-01    CRITERION= .2495    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 393
*** TIME = .187768E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8637E-05    OSCILLATION LIMIT = 6.814
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 27.12    CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .7145E-01    CRITERION= .2493    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 394
*** TIME = .188557E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8660E-05    OSCILLATION LIMIT = 6.832
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 27.22    CRITERION= .2508
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .7118E-01    CRITERION= .2492    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 395
*** TIME = .189346E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8626E-05    OSCILLATION LIMIT = 6.806

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    03:18:03 JUN 11, 1995 CP= 24097.570
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 22.22    CRITERION= .2501
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5880E-01    CRITERION= .2490    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 396
*** TIME = .190135E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8171E-05    OSCILLATION LIMIT = 6.446
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.32    CRITERION= .2500
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5862E-01    CRITERION= .2489    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 397
*** TIME = .190924E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7955E-05    OSCILLATION LIMIT = 6.276
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.22    CRITERION= .2498
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5902E-01    CRITERION= .2487    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 398
*** TIME = .191712E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7702E-05 OSCILLATION LIMIT = 6.076
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.32 CRITERION= .2497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5855E-01 CRITERION= .2486 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 399
*** TIME = .192501E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7940E-05 OSCILLATION LIMIT = 6.265
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.22 CRITERION= .2495
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5892E-01 CRITERION= .2484 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 400
*** TIME = .193290E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7728E-05 OSCILLATION LIMIT = 6.097
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.32 CRITERION= .2494
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5853E-01 CRITERION= .2483 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 401
*** TIME = .194079E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7904E-05 OSCILLATION LIMIT = 6.236
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.22 CRITERION= .2493
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5885E-01 CRITERION= .2481 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 402
*** TIME = .194868E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7745E-05 OSCILLATION LIMIT = 6.111
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.32 CRITERION= .2491
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5846E-01 CRITERION= .2480 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 403
*** TIME = .195657E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7872E-05 OSCILLATION LIMIT = 6.211
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.22 CRITERION= .2490
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5876E-01 CRITERION= .2478 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 404
*** TIME = .196446E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7759E-05 OSCILLATION LIMIT = 6.121
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.32 CRITERION= .2488
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5839E-01 CRITERION= .2477 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 405
*** TIME = .197235E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7847E-05 OSCILLATION LIMIT = 6.191
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.22 CRITERION= .2487

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5867E-01 CRITERION= .2475 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 406
*** TIME = .198024E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7768E-05 OSCILLATION LIMIT = 6.128
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.32 CRITERION= .2485
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5832E-01 CRITERION= .2474 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 407
*** TIME = .198813E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7827E-05 OSCILLATION LIMIT = 6.175
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.22 CRITERION= .2484
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5858E-01 CRITERION= .2472 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 408
*** TIME = .199602E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7773E-05 OSCILLATION LIMIT = 6.132
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.32 CRITERION= .2482
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5825E-01 CRITERION= .2471 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 409
*** TIME = .200391E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7810E-05 OSCILLATION LIMIT = 6.161
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2481
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5849E-01 CRITERION= .2469 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 410
*** TIME = .201180E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7775E-05 OSCILLATION LIMIT = 6.134
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2479
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5817E-01 CRITERION= .2468 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 411
*** TIME = .201969E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7795E-05 OSCILLATION LIMIT = 6.149
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2478
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5840E-01 CRITERION= .2466 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 412
*** TIME = .202758E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7775E-05 OSCILLATION LIMIT = 6.134
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2476
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5809E-01 CRITERION= .2465 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 413
*** TIME = .203547E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7781E-05 OSCILLATION LIMIT = 6.139
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2475
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5831E-01 CRITERION= .2463 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 414
 *** TIME = .204335E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7774E-05 OSCILLATION LIMIT = 6.133
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2473
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5801E-01 CRITERION= .2462 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 415
 *** TIME = .205124E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7769E-05 OSCILLATION LIMIT = 6.130
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2472
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5823E-01 CRITERION= .2460 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 416
 *** TIME = .205913E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7771E-05 OSCILLATION LIMIT = 6.131
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2470
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5794E-01 CRITERION= .2459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 417
 *** TIME = .206702E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7759E-05 OSCILLATION LIMIT = 6.122
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2469
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5815E-01 CRITERION= .2457 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 418
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7768E-05 OSCILLATION LIMIT = 6.129
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2467
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5786E-01 CRITERION= .2456 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 419
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7750E-05 OSCILLATION LIMIT = 6.114
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2466
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5806E-01 CRITERION= .2455 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 420
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7764E-05 OSCILLATION LIMIT = 6.126
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2465
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .5778E-01 CRITERION= .2453 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 421
 *** TIME = .209858E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .7741E-05  OSCILLATION LIMIT = 6.107
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.21      CRITERION= .2463
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5798E-01 CRITERION= .2452    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 27 COMPLETED.  CUM ITER = 422
*** TIME = .210647E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7759E-05  OSCILLATION LIMIT = 6.122
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.31      CRITERION= .2462
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5770E-01 CRITERION= .2450    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 28 COMPLETED.  CUM ITER = 423
*** TIME = .211436E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7732E-05  OSCILLATION LIMIT = 6.100
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.21      CRITERION= .2460
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5789E-01 CRITERION= .2449    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 29 COMPLETED.  CUM ITER = 424
*** TIME = .212225E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7754E-05  OSCILLATION LIMIT = 6.118
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.31      CRITERION= .2459
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5762E-01 CRITERION= .2447    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 30 COMPLETED.  CUM ITER = 425
*** TIME = .213014E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7724E-05  OSCILLATION LIMIT = 6.094
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.21      CRITERION= .2457
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5779E-01 CRITERION= .2446    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 31 COMPLETED.  CUM ITER = 426
*** TIME = .213803E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7749E-05  OSCILLATION LIMIT = 6.114
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.31      CRITERION= .2456
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5753E-01 CRITERION= .2444    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 32 COMPLETED.  CUM ITER = 427
*** TIME = .214592E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7717E-05  OSCILLATION LIMIT = 6.088
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.21      CRITERION= .2455
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5773E-01 CRITERION= .2443    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 33 COMPLETED.  CUM ITER = 428
*** TIME = .215381E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7744E-05  OSCILLATION LIMIT = 6.109
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.31      CRITERION= .2453
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .8023E-01
  HT FLOW CONVERGENCE VALUE= .5748E-01 CRITERION= .2442    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 429
*** TIME = .216170E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7708E-05 OSCILLATION LIMIT = 6.081
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2452
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5767E-01 CRITERION= .2440 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 430
*** TIME = .216959E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7736E-05 OSCILLATION LIMIT = 6.103
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5741E-01 CRITERION= .2439 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 431
*** TIME = .217747E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7700E-05 OSCILLATION LIMIT = 6.075
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2449
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5760E-01 CRITERION= .2437 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 432
*** TIME = .218536E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7730E-05 OSCILLATION LIMIT = 6.099
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2447
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5737E-01 CRITERION= .2436 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 433
*** TIME = .219325E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7693E-05 OSCILLATION LIMIT = 6.069
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.21 CRITERION= .2446
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5755E-01 CRITERION= .2434 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 434
*** TIME = .220114E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7722E-05 OSCILLATION LIMIT = 6.092
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.31 CRITERION= .2444
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .5732E-01 CRITERION= .2433 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 435
*** TIME = .220903E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7683E-05 OSCILLATION LIMIT = 6.062

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:01:22 JUN 11, 1995 CP= 26616.000
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2441
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01

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HT FLOW CONVERGENCE VALUE= .5215E-01 CRITERION= .2431 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 436
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8409E-05 OSCILLATION LIMIT = 6.634
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2440
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5186E-01 CRITERION= .2430 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 437
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8359E-05 OSCILLATION LIMIT = 6.595
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2438
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5219E-01 CRITERION= .2428 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 438
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8157E-05 OSCILLATION LIMIT = 6.436
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2437
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5175E-01 CRITERION= .2427 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 439
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8337E-05 OSCILLATION LIMIT = 6.578
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2436
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5193E-01 CRITERION= .2426 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 440
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8176E-05 OSCILLATION LIMIT = 6.450
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2434
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5158E-01 CRITERION= .2424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 441
 *** TIME = .225637E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8305E-05 OSCILLATION LIMIT = 6.552
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2433
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5185E-01 CRITERION= .2423 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 442
 *** TIME = .226426E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8189E-05 OSCILLATION LIMIT = 6.460
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5153E-01 CRITERION= .2422 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 443
 *** TIME = .227215E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8280E-05 OSCILLATION LIMIT = 6.533
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2430
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5178E-01 CRITERION= .2420 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 444
 *** TIME = .228004E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8197E-05 OSCILLATION LIMIT = 6.467
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2428
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5147E-01 CRITERION= .2419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 445
 *** TIME = .228793E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8260E-05 OSCILLATION LIMIT = 6.516
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2427
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5170E-01 CRITERION= .2417 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 446
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8203E-05 OSCILLATION LIMIT = 6.472
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5141E-01 CRITERION= .2416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 447
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8242E-05 OSCILLATION LIMIT = 6.502
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5163E-01 CRITERION= .2414 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 448
 *** TIME = .231159E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8206E-05 OSCILLATION LIMIT = 6.474
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5112E-01 CRITERION= .2413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 449
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8227E-05 OSCILLATION LIMIT = 6.491
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5125E-01 CRITERION= .2412 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 450
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8205E-05 OSCILLATION LIMIT = 6.474
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .5096E-01 CRITERION= .2410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 451
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8212E-05 OSCILLATION LIMIT = 6.479

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2419
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5116E-01 CRITERION= .2409 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 452
*** TIME = .234315E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8204E-05 OSCILLATION LIMIT = 6.473
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2417
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5090E-01 CRITERION= .2408 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 453
*** TIME = .235104E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8201E-05 OSCILLATION LIMIT = 6.470
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2416
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5109E-01 CRITERION= .2406 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 454
*** TIME = .235893E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8202E-05 OSCILLATION LIMIT = 6.471
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2415
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5083E-01 CRITERION= .2405 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 455
*** TIME = .236682E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8191E-05 OSCILLATION LIMIT = 6.462
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2413
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5102E-01 CRITERION= .2403 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 456
*** TIME = .237471E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8199E-05 OSCILLATION LIMIT = 6.469
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2412
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5076E-01 CRITERION= .2402 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 457
*** TIME = .238260E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8181E-05 OSCILLATION LIMIT = 6.455
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2411
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5095E-01 CRITERION= .2401 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 458
*** TIME = .239049E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8195E-05 OSCILLATION LIMIT = 6.465
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2409
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5070E-01 CRITERION= .2399 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 459

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*** TIME = .239838E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8172E-05    OSCILLATION LIMIT = 6.448
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.26    CRITERION= .2408
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5088E-01    CRITERION= .2398    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 460
*** TIME = .240627E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8191E-05    OSCILLATION LIMIT = 6.462
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.36    CRITERION= .2406
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5063E-01    CRITERION= .2397    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 461
*** TIME = .241416E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8165E-05    OSCILLATION LIMIT = 6.441
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.26    CRITERION= .2405
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5081E-01    CRITERION= .2395    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 462
*** TIME = .242205E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8185E-05    OSCILLATION LIMIT = 6.458
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.36    CRITERION= .2404
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5057E-01    CRITERION= .2394    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 463
*** TIME = .242994E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8157E-05    OSCILLATION LIMIT = 6.435
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.26    CRITERION= .2402
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5066E-01    CRITERION= .2392    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 464
*** TIME = .243782E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8180E-05    OSCILLATION LIMIT = 6.454
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.36    CRITERION= .2401
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5033E-01    CRITERION= .2391    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 465
*** TIME = .244571E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8149E-05    OSCILLATION LIMIT = 6.429
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.26    CRITERION= .2400
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5049E-01    CRITERION= .2389    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 466
*** TIME = .245360E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8173E-05    OSCILLATION LIMIT = 6.448
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.36    CRITERION= .2398
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
    HT FLOW CONVERGENCE VALUE= .5026E-01    CRITERION= .2388    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 467
*** TIME = .246149E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8140E-05 OSCILLATION LIMIT = 6.422
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2397
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5042E-01 CRITERION= .2387 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 468
*** TIME = .246938E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8167E-05 OSCILLATION LIMIT = 6.444
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2395
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5014E-01 CRITERION= .2385 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 469
*** TIME = .247727E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8133E-05 OSCILLATION LIMIT = 6.417
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2394
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5018E-01 CRITERION= .2384 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 470
*** TIME = .248516E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8161E-05 OSCILLATION LIMIT = 6.439
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2392
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4996E-01 CRITERION= .2383 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 471
*** TIME = .249305E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8124E-05 OSCILLATION LIMIT = 6.410
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2391
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .5011E-01 CRITERION= .2381 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 472
*** TIME = .250094E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8154E-05 OSCILLATION LIMIT = 6.433
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2390
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4983E-01 CRITERION= .2380 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 473
*** TIME = .250883E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8118E-05 OSCILLATION LIMIT = 6.404
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2388
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .4973E-01 CRITERION= .2378 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 474
*** TIME = .251672E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8147E-05 OSCILLATION LIMIT = 6.428
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2387

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .4935E-01 CRITERION= .2377 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 475
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8109E-05 OSCILLATION LIMIT = 6.397

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:44:26 JUN 11, 1995 CP= 29142.380
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2911E-01 CRITERION= .2376 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 476
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1863E-04 OSCILLATION LIMIT = 14.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2379
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2868E-01 CRITERION= .2375 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 477
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1898E-04 OSCILLATION LIMIT = 14.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2378
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2937E-01 CRITERION= .2373 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 478
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1625E-04 OSCILLATION LIMIT = 12.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2377
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2870E-01 CRITERION= .2372 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 479
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1876E-04 OSCILLATION LIMIT = 14.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2375
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2928E-01 CRITERION= .2370 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 480
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1653E-04 OSCILLATION LIMIT = 13.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2374
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2854E-01 CRITERION= .2369 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 481
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1848E-04 OSCILLATION LIMIT = 14.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2373
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2902E-01 CRITERION= .2368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 482
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1675E-04 OSCILLATION LIMIT = 13.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2371
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2852E-01 CRITERION= .2367 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 483
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1826E-04 OSCILLATION LIMIT = 14.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2370
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2895E-01 CRITERION= .2365 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 484
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1692E-04 OSCILLATION LIMIT = 13.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2851E-01 CRITERION= .2364 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 485
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1809E-04 OSCILLATION LIMIT = 14.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2368
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2889E-01 CRITERION= .2363 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 486
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1704E-04 OSCILLATION LIMIT = 13.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2850E-01 CRITERION= .2362 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 487
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1796E-04 OSCILLATION LIMIT = 14.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2365
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2884E-01 CRITERION= .2360 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 488
 *** TIME = .262717E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1714E-04 OSCILLATION LIMIT = 13.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2847E-01 CRITERION= .2359 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 489
 *** TIME = .263506E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1786E-04  OSCILLATION LIMIT = 14.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.80  CRITERION= .2362
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .2357  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 490
*** TIME = .264295E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1722E-04  OSCILLATION LIMIT = 13.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.89  CRITERION= .2361
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2825E-01 CRITERION= .2356  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 491
*** TIME = .265084E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1778E-04  OSCILLATION LIMIT = 14.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.80  CRITERION= .2360
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2854E-01 CRITERION= .2355  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 492
*** TIME = .265873E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1727E-04  OSCILLATION LIMIT = 13.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.89  CRITERION= .2358
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2823E-01 CRITERION= .2354  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 493
*** TIME = .266662E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1771E-04  OSCILLATION LIMIT = 13.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.80  CRITERION= .2357
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2849E-01 CRITERION= .2352  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 494
*** TIME = .267451E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1731E-04  OSCILLATION LIMIT = 13.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.89  CRITERION= .2356
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2820E-01 CRITERION= .2351  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 495
*** TIME = .268240E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1766E-04  OSCILLATION LIMIT = 13.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.80  CRITERION= .2355
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2845E-01 CRITERION= .2350  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 496
*** TIME = .269029E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1734E-04  OSCILLATION LIMIT = 13.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.89  CRITERION= .2353
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
  HT FLOW CONVERGENCE VALUE= .2818E-01 CRITERION= .2349  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 497
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1762E-04 OSCILLATION LIMIT = 13.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2352
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2841E-01 CRITERION= .2347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 498
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1736E-04 OSCILLATION LIMIT = 13.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2815E-01 CRITERION= .2346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 499
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1759E-04 OSCILLATION LIMIT = 13.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2837E-01 CRITERION= .2344 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 500
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1738E-04 OSCILLATION LIMIT = 13.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2348
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2812E-01 CRITERION= .2343 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 501
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1756E-04 OSCILLATION LIMIT = 13.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2834E-01 CRITERION= .2342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 502
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1739E-04 OSCILLATION LIMIT = 13.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2345
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2809E-01 CRITERION= .2341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 503
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1753E-04 OSCILLATION LIMIT = 13.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2344
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2830E-01 CRITERION= .2339 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 504
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1740E-04 OSCILLATION LIMIT = 13.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01

HT FLOW CONVERGENCE VALUE= .2805E-01 CRITERION= .2338 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 505
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1751E-04 OSCILLATION LIMIT = 13.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2342
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2826E-01 CRITERION= .2337 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 506
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1740E-04 OSCILLATION LIMIT = 13.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2340
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2802E-01 CRITERION= .2336 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 507
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1750E-04 OSCILLATION LIMIT = 13.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2339
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2822E-01 CRITERION= .2334 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 508
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1740E-04 OSCILLATION LIMIT = 13.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2338
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2799E-01 CRITERION= .2333 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 509
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1748E-04 OSCILLATION LIMIT = 13.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2336
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2818E-01 CRITERION= .2331 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 510
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1740E-04 OSCILLATION LIMIT = 13.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2335
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2795E-01 CRITERION= .2330 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 511
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1747E-04 OSCILLATION LIMIT = 13.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2815E-01 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 512
 *** TIME = .281652E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1740E-04 OSCILLATION LIMIT = 13.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2332
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2792E-01 CRITERION= .2328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 513
 *** TIME = .282441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1745E-04 OSCILLATION LIMIT = 13.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.80 CRITERION= .2331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2811E-01 CRITERION= .2326 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 514
 *** TIME = .283229E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1739E-04 OSCILLATION LIMIT = 13.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.89 CRITERION= .2330
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4682E-01
 HT FLOW CONVERGENCE VALUE= .2789E-01 CRITERION= .2325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 515
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1744E-04 OSCILLATION LIMIT = 13.76
 Apply loads and solve for 10 to 90 years

*DO LOOP ON PARAMETER= TM FROM .31558E+09 TO .28402E+10 BY .31558E+09
 TIME= .31558E+09

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 4464.28518 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 164.75 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 165.54 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 167.51 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 31668.380 TIME= 05:27:25
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:27:25 JUN 11, 1995 CP= 31668.380
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 22
TIME AT END OF THE LOAD STEP.31558E+09
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2328
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2487E-01 CRITERION= .2324 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 516
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1488E-04 OSCILLATION LIMIT = 11.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2327
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2472E-01 CRITERION= .2323 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 517
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1458E-04 OSCILLATION LIMIT = 11.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2326
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2492E-01 CRITERION= .2322 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 518
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1463E-04 OSCILLATION LIMIT = 11.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2325
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2470E-01 CRITERION= .2321 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 519
*** TIME = .287174E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1460E-04  OSCILLATION LIMIT = 11.52
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.15  CRITERION= .2324
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2489E-01 CRITERION= .2320  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 520
*** TIME = .287963E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1462E-04  OSCILLATION LIMIT = 11.53
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.24  CRITERION= .2322
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2467E-01 CRITERION= .2319  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 521
*** TIME = .288752E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1460E-04  OSCILLATION LIMIT = 11.52
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.15  CRITERION= .2322
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2479E-01 CRITERION= .2318  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 522
*** TIME = .289541E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1461E-04  OSCILLATION LIMIT = 11.52
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.24  CRITERION= .2320
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2452E-01 CRITERION= .2317  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 523
*** TIME = .290330E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1459E-04  OSCILLATION LIMIT = 11.51
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.15  CRITERION= .2320
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2471E-01 CRITERION= .2316  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 524
*** TIME = .291119E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1459E-04  OSCILLATION LIMIT = 11.51
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.24  CRITERION= .2318
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2450E-01 CRITERION= .2315  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 525
*** TIME = .291908E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1459E-04  OSCILLATION LIMIT = 11.51
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.15  CRITERION= .2317
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2469E-01 CRITERION= .2314  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 526
*** TIME = .292697E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1459E-04  OSCILLATION LIMIT = 11.51
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.24  CRITERION= .2316
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
  HT FLOW CONVERGENCE VALUE= .2448E-01 CRITERION= .2313  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 527
*** TIME = .293486E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1458E-04 OSCILLATION LIMIT = 11.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2315
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2467E-01 CRITERION= .2312 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 528
*** TIME = .294275E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1458E-04 OSCILLATION LIMIT = 11.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2314
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2445E-01 CRITERION= .2311 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 529
*** TIME = .295064E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1458E-04 OSCILLATION LIMIT = 11.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2313
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2464E-01 CRITERION= .2309 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 530
*** TIME = .295853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1457E-04 OSCILLATION LIMIT = 11.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2312
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2443E-01 CRITERION= .2309 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 531
*** TIME = .296641E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1458E-04 OSCILLATION LIMIT = 11.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2311
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .2307 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 532
*** TIME = .297430E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1456E-04 OSCILLATION LIMIT = 11.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2310
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2441E-01 CRITERION= .2307 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 533
*** TIME = .298219E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1457E-04 OSCILLATION LIMIT = 11.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2309
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2459E-01 CRITERION= .2305 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 534
*** TIME = .299008E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1456E-04 OSCILLATION LIMIT = 11.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2308
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01

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HT FLOW CONVERGENCE VALUE= .2438E-01 CRITERION= .2305 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 535
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1456E-04 OSCILLATION LIMIT = 11.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2307
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2457E-01 CRITERION= .2303 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 536
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1455E-04 OSCILLATION LIMIT = 11.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2306
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2433E-01 CRITERION= .2302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 537
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1456E-04 OSCILLATION LIMIT = 11.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2305
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2451E-01 CRITERION= .2301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 538
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1454E-04 OSCILLATION LIMIT = 11.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2430E-01 CRITERION= .2300 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 539
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1455E-04 OSCILLATION LIMIT = 11.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2303
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2449E-01 CRITERION= .2299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 540
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1454E-04 OSCILLATION LIMIT = 11.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2302
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2428E-01 CRITERION= .2298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 541
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1454E-04 OSCILLATION LIMIT = 11.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2446E-01 CRITERION= .2297 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 542
 *** TIME = .305320E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1453E-04 OSCILLATION LIMIT = 11.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2426E-01 CRITERION= .2296 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 543
 *** TIME = .306109E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1454E-04 OSCILLATION LIMIT = 11.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2444E-01 CRITERION= .2295 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 544
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1452E-04 OSCILLATION LIMIT = 11.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2424E-01 CRITERION= .2294 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 545
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1453E-04 OSCILLATION LIMIT = 11.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2439E-01 CRITERION= .2293 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 546
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1452E-04 OSCILLATION LIMIT = 11.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2411E-01 CRITERION= .2292 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 547
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1452E-04 OSCILLATION LIMIT = 11.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2428E-01 CRITERION= .2291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 548
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1451E-04 OSCILLATION LIMIT = 11.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2409E-01 CRITERION= .2290 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 549
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1452E-04 OSCILLATION LIMIT = 11.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2426E-01 CRITERION= .2289 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 550
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1450E-04 OSCILLATION LIMIT = 11.44

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2292
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2406E-01 CRITERION= .2288 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 551
*** TIME = .312420E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1451E-04 OSCILLATION LIMIT = 11.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2291
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2423E-01 CRITERION= .2287 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 552
*** TIME = .313209E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1450E-04 OSCILLATION LIMIT = 11.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2289
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2404E-01 CRITERION= .2286 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 553
*** TIME = .313998E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1450E-04 OSCILLATION LIMIT = 11.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.15 CRITERION= .2289
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2421E-01 CRITERION= .2285 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 554
*** TIME = .314787E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1449E-04 OSCILLATION LIMIT = 11.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2287
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2402E-01 CRITERION= .2284 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 555
*** TIME = .315576E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1450E-04 OSCILLATION LIMIT = 11.44

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 06:10:23 JUN 11, 1995 CP= 34194.530
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 82.21 CRITERION= .2427
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1686 CRITERION= .2274 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 556
*** TIME = .323465E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2278E-04 OSCILLATION LIMIT = 179.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.29 CRITERION= .2418
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1646 CRITERION= .2264 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 557
*** TIME = .331355E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2510E-04 OSCILLATION LIMIT = 198.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.20 CRITERION= .2408
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1633 CRITERION= .2254 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 558
*** TIME = .339244E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2476E-04 OSCILLATION LIMIT = 195.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.28 CRITERION= .2399
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1618 CRITERION= .2244 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 559
*** TIME = .347134E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2490E-04 OSCILLATION LIMIT = 196.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.19 CRITERION= .2389
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1597 CRITERION= .2233 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 560
*** TIME = .355023E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2471E-04 OSCILLATION LIMIT = 194.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.28 CRITERION= .2380
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1580 CRITERION= .2223 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 561
*** TIME = .362912E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2483E-04 OSCILLATION LIMIT = 195.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.18 CRITERION= .2370
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1567 CRITERION= .2213 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 562
*** TIME = .370802E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2464E-04 OSCILLATION LIMIT = 194.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.27 CRITERION= .2361
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1550 CRITERION= .2203 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 563
*** TIME = .378691E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2477E-04 OSCILLATION LIMIT = 195.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.18 CRITERION= .2351
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1545 CRITERION= .2193 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 564
*** TIME = .386581E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2458E-04 OSCILLATION LIMIT = 193.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.26 CRITERION= .2342

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1534 CRITERION= .2183 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 565
*** TIME = .394470E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2471E-04 OSCILLATION LIMIT = 194.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.17 CRITERION= .2332
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1512 CRITERION= .2173 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 566
*** TIME = .402359E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2453E-04 OSCILLATION LIMIT = 193.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.26 CRITERION= .2323
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1500 CRITERION= .2163 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 567
*** TIME = .410249E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2465E-04 OSCILLATION LIMIT = 194.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.16 CRITERION= .2313
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1483 CRITERION= .2153 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 568
*** TIME = .418138E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2447E-04 OSCILLATION LIMIT = 193.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.25 CRITERION= .2304
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1468 CRITERION= .2143 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 569
*** TIME = .426028E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2459E-04 OSCILLATION LIMIT = 194.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.16 CRITERION= .2295
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1458 CRITERION= .2133 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 570
*** TIME = .433917E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2442E-04 OSCILLATION LIMIT = 192.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.24 CRITERION= .2285
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1432 CRITERION= .2123 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 571
*** TIME = .441806E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2453E-04 OSCILLATION LIMIT = 193.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.15 CRITERION= .2276
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1406 CRITERION= .2112 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 572
*** TIME = .449696E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2436E-04 OSCILLATION LIMIT = 192.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 82.24 CRITERION= .2266
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1373 CRITERION= .2102 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 573
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2447E-04 OSCILLATION LIMIT = 193.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.14 CRITERION= .2257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1326 CRITERION= .2092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 574
 *** TIME = .465475E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2431E-04 OSCILLATION LIMIT = 191.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.23 CRITERION= .2247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1297 CRITERION= .2082 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 575
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2441E-04 OSCILLATION LIMIT = 192.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.14 CRITERION= .2238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1273 CRITERION= .2072 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 576
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2425E-04 OSCILLATION LIMIT = 191.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.22 CRITERION= .2229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1254 CRITERION= .2062 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 577
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2435E-04 OSCILLATION LIMIT = 192.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.13 CRITERION= .2219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1243 CRITERION= .2052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 578
 *** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2419E-04 OSCILLATION LIMIT = 190.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.21 CRITERION= .2210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1228 CRITERION= .2042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 579
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2430E-04 OSCILLATION LIMIT = 191.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.12 CRITERION= .2201
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
 HT FLOW CONVERGENCE VALUE= .1222 CRITERION= .2032 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 580
 *** TIME = .512811E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .2414E-04  OSCILLATION LIMIT = 190.5
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.21      CRITERION= .2191
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1209      CRITERION= .2022  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  23  SUBSTEP  26 COMPLETED.  CUM ITER =  581
*** TIME = .520700E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2424E-04  OSCILLATION LIMIT = 191.2
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.11      CRITERION= .2182
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1202      CRITERION= .2012  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  23  SUBSTEP  27 COMPLETED.  CUM ITER =  582
*** TIME = .528590E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2409E-04  OSCILLATION LIMIT = 190.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.20      CRITERION= .2172
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1193      CRITERION= .2002  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  23  SUBSTEP  28 COMPLETED.  CUM ITER =  583
*** TIME = .536479E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2418E-04  OSCILLATION LIMIT = 190.8
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.11      CRITERION= .2163
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1187      CRITERION= .1991  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  23  SUBSTEP  29 COMPLETED.  CUM ITER =  584
*** TIME = .544369E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2403E-04  OSCILLATION LIMIT = 189.6
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.19      CRITERION= .2154
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1175      CRITERION= .1981  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  23  SUBSTEP  30 COMPLETED.  CUM ITER =  585
*** TIME = .552258E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2413E-04  OSCILLATION LIMIT = 190.4
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.10      CRITERION= .2144
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1165      CRITERION= .1971  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  23  SUBSTEP  31 COMPLETED.  CUM ITER =  586
*** TIME = .560147E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2398E-04  OSCILLATION LIMIT = 189.2
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.19      CRITERION= .2135
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1154      CRITERION= .1961  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  23  SUBSTEP  32 COMPLETED.  CUM ITER =  587
*** TIME = .568037E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2407E-04  OSCILLATION LIMIT = 189.9
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 82.09      CRITERION= .2126
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2991
  HT FLOW CONVERGENCE VALUE= .1147      CRITERION= .1951  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 588
*** TIME = .575926E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2393E-04 OSCILLATION LIMIT = 188.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.18 CRITERION= .2117
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1135 CRITERION= .1941 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 589
*** TIME = .583816E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2402E-04 OSCILLATION LIMIT = 189.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.09 CRITERION= .2107
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1126 CRITERION= .1931 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 590
*** TIME = .591705E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2388E-04 OSCILLATION LIMIT = 188.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.17 CRITERION= .2098
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1116 CRITERION= .1921 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 591
*** TIME = .599594E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2396E-04 OSCILLATION LIMIT = 189.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .2089
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1113 CRITERION= .1911 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 592
*** TIME = .607484E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2383E-04 OSCILLATION LIMIT = 188.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.17 CRITERION= .2079
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1107 CRITERION= .1901 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 593
*** TIME = .615373E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2391E-04 OSCILLATION LIMIT = 188.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.07 CRITERION= .2070
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1104 CRITERION= .1891 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 594
*** TIME = .623263E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2377E-04 OSCILLATION LIMIT = 187.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.16 CRITERION= .2061
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2991
HT FLOW CONVERGENCE VALUE= .1096 CRITERION= .1881 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 595
*** TIME = .631152E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2386E-04 OSCILLATION LIMIT = 188.2

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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:53:22 JUN 11, 1995 CP= 36723.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 53.76 CRITERION= .1956
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6868E-01 CRITERION= .1873 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 596
 *** TIME = .639041E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3181E-04 OSCILLATION LIMIT = 251.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.84 CRITERION= .1948
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6858E-01 CRITERION= .1866 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 597
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3070E-04 OSCILLATION LIMIT = 242.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.75 CRITERION= .1941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6855E-01 CRITERION= .1858 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 598
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3042E-04 OSCILLATION LIMIT = 240.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.84 CRITERION= .1934
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6801E-01 CRITERION= .1851 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 599
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3072E-04 OSCILLATION LIMIT = 242.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.75 CRITERION= .1927
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6798E-01 CRITERION= .1843 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 600
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3038E-04 OSCILLATION LIMIT = 239.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.84 CRITERION= .1919
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6745E-01 CRITERION= .1835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 601
 *** TIME = .678488E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3068E-04 OSCILLATION LIMIT = 242.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.75 CRITERION= .1912
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6741E-01 CRITERION= .1828 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 602
 *** TIME = .686378E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3035E-04 OSCILLATION LIMIT = 239.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.83 CRITERION= .1905
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6688E-01 CRITERION= .1820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 603
 *** TIME = .694267E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3064E-04 OSCILLATION LIMIT = 241.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.74 CRITERION= .1898
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6685E-01 CRITERION= .1813 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 604
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3032E-04 OSCILLATION LIMIT = 239.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.83 CRITERION= .1891
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6632E-01 CRITERION= .1805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 605
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3061E-04 OSCILLATION LIMIT = 241.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.74 CRITERION= .1883
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6628E-01 CRITERION= .1798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 606
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3029E-04 OSCILLATION LIMIT = 239.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.83 CRITERION= .1876
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6577E-01 CRITERION= .1790 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 607
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3057E-04 OSCILLATION LIMIT = 241.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.74 CRITERION= .1869
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6573E-01 CRITERION= .1783 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 608
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3026E-04 OSCILLATION LIMIT = 238.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.83 CRITERION= .1862
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6522E-01 CRITERION= .1775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 609
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3053E-04 OSCILLATION LIMIT = 240.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.73 CRITERION= .1854
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .1767 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 610
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3023E-04 OSCILLATION LIMIT = 238.5

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.82 CRITERION= .1847
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6464E-01 CRITERION= .1760 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 611
*** TIME = .757382E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3049E-04 OSCILLATION LIMIT = 240.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.73 CRITERION= .1840
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6459E-01 CRITERION= .1752 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 612
*** TIME = .765272E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3019E-04 OSCILLATION LIMIT = 238.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.82 CRITERION= .1833
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6408E-01 CRITERION= .1745 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 613
*** TIME = .773161E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3045E-04 OSCILLATION LIMIT = 240.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.73 CRITERION= .1826
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6402E-01 CRITERION= .1737 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 614
*** TIME = .781051E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3016E-04 OSCILLATION LIMIT = 238.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.82 CRITERION= .1818
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6352E-01 CRITERION= .1730 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 615
*** TIME = .788940E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3041E-04 OSCILLATION LIMIT = 240.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.73 CRITERION= .1811
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6347E-01 CRITERION= .1722 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 616
*** TIME = .796829E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3013E-04 OSCILLATION LIMIT = 237.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.81 CRITERION= .1804
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6296E-01 CRITERION= .1715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 617
*** TIME = .804719E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3038E-04 OSCILLATION LIMIT = 239.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.72 CRITERION= .1797
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6291E-01 CRITERION= .1707 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 618


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*** TIME = .812608E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3010E-04    OSCILLATION LIMIT = 237.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.81    CRITERION= .1790
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6239E-01    CRITERION= .1700    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 619
*** TIME = .820498E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3034E-04    OSCILLATION LIMIT = 239.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.72    CRITERION= .1782
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6234E-01    CRITERION= .1692    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 620
*** TIME = .828387E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3007E-04    OSCILLATION LIMIT = 237.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.81    CRITERION= .1775
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6184E-01    CRITERION= .1685    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 621
*** TIME = .836276E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3030E-04    OSCILLATION LIMIT = 239.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.72    CRITERION= .1768
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6177E-01    CRITERION= .1677    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 622
*** TIME = .844166E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3003E-04    OSCILLATION LIMIT = 236.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.80    CRITERION= .1761
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6128E-01    CRITERION= .1670    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 623
*** TIME = .852055E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3026E-04    OSCILLATION LIMIT = 238.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.71    CRITERION= .1754
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6121E-01    CRITERION= .1662    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 624
*** TIME = .859945E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3000E-04    OSCILLATION LIMIT = 236.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.80    CRITERION= .1747
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6072E-01    CRITERION= .1655    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 625
*** TIME = .867834E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3022E-04    OSCILLATION LIMIT = 238.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.71    CRITERION= .1739
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
    HT FLOW CONVERGENCE VALUE= .6065E-01    CRITERION= .1647    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 626
*** TIME = .875723E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2997E-04 OSCILLATION LIMIT = 236.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.80 CRITERION= .1732
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6016E-01 CRITERION= .1640 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 627
*** TIME = .883613E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3019E-04 OSCILLATION LIMIT = 238.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.71 CRITERION= .1725
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .6009E-01 CRITERION= .1632 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 628
*** TIME = .891502E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2994E-04 OSCILLATION LIMIT = 236.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.79 CRITERION= .1718
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .5961E-01 CRITERION= .1625 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 629
*** TIME = .899392E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3015E-04 OSCILLATION LIMIT = 237.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.70 CRITERION= .1711
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .5952E-01 CRITERION= .1617 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 630
*** TIME = .907281E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2990E-04 OSCILLATION LIMIT = 235.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.79 CRITERION= .1704
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .5903E-01 CRITERION= .1609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 631
*** TIME = .915170E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3011E-04 OSCILLATION LIMIT = 237.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.70 CRITERION= .1696
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .5895E-01 CRITERION= .1602 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 632
*** TIME = .923060E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2987E-04 OSCILLATION LIMIT = 235.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.79 CRITERION= .1689
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
HT FLOW CONVERGENCE VALUE= .5848E-01 CRITERION= .1594 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 633
*** TIME = .930949E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3007E-04 OSCILLATION LIMIT = 237.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.70 CRITERION= .1682

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .5841E-01 CRITERION= .1587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 634
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2984E-04 OSCILLATION LIMIT = 235.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.78 CRITERION= .1675
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1964
 HT FLOW CONVERGENCE VALUE= .5793E-01 CRITERION= .1579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 635
 *** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3004E-04 OSCILLATION LIMIT = 237.0

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:36:21 JUN 11, 1995 CP= 39253.300
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 17.36 CRITERION= .1589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1501
 HT FLOW CONVERGENCE VALUE= .2695E-01 CRITERION= .1573 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 636
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1442
 HT FLOW CONVERGENCE VALUE= .2589E-01 CRITERION= .1568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 637
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6521E-04 OSCILLATION LIMIT = 514.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36 CRITERION= .1577
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1424
 HT FLOW CONVERGENCE VALUE= .2552E-01 CRITERION= .1562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 638
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6512E-04 OSCILLATION LIMIT = 513.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.45 CRITERION= .1571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1446
 HT FLOW CONVERGENCE VALUE= .2572E-01 CRITERION= .1556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 639
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36 CRITERION= .1566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1425
 HT FLOW CONVERGENCE VALUE= .2534E-01 CRITERION= .1551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 640
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6512E-04 OSCILLATION LIMIT = 513.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 17.44      CRITERION= .1560
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1447
HT FLOW CONVERGENCE VALUE= .2553E-01 CRITERION= .1545    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 641
*** TIME = .994064E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36      CRITERION= .1554
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1426
HT FLOW CONVERGENCE VALUE= .2516E-01 CRITERION= .1539    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 642
*** TIME = .100195E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6512E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44      CRITERION= .1549
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1447
HT FLOW CONVERGENCE VALUE= .2534E-01 CRITERION= .1533    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 643
*** TIME = .100984E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36      CRITERION= .1543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1427
HT FLOW CONVERGENCE VALUE= .2498E-01 CRITERION= .1528    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 644
*** TIME = .101773E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44      CRITERION= .1537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1447
HT FLOW CONVERGENCE VALUE= .2515E-01 CRITERION= .1522    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 645
*** TIME = .102562E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36      CRITERION= .1532
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1428
HT FLOW CONVERGENCE VALUE= .2480E-01 CRITERION= .1516    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 646
*** TIME = .103351E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44      CRITERION= .1526
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1448
HT FLOW CONVERGENCE VALUE= .2497E-01 CRITERION= .1511    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 647
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36      CRITERION= .1520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1429
HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .1505    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 648
*** TIME = .104929E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1448
HT FLOW CONVERGENCE VALUE= .2478E-01 CRITERION= .1499 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 649
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36 CRITERION= .1509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1430
HT FLOW CONVERGENCE VALUE= .2444E-01 CRITERION= .1493 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 650
*** TIME = .106507E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1503
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1449
HT FLOW CONVERGENCE VALUE= .2459E-01 CRITERION= .1488 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 651
*** TIME = .107296E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36 CRITERION= .1497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1431
HT FLOW CONVERGENCE VALUE= .2426E-01 CRITERION= .1482 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 652
*** TIME = .108085E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1492
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1449
HT FLOW CONVERGENCE VALUE= .2440E-01 CRITERION= .1476 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 653
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36 CRITERION= .1486
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1432
HT FLOW CONVERGENCE VALUE= .2408E-01 CRITERION= .1470 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 654
*** TIME = .109663E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1480
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1449
HT FLOW CONVERGENCE VALUE= .2421E-01 CRITERION= .1465 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 655
*** TIME = .110452E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.36 CRITERION= .1475
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1433
HT FLOW CONVERGENCE VALUE= .2390E-01 CRITERION= .1459 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 656
*** TIME = .111241E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1469
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1450
HT FLOW CONVERGENCE VALUE= .2402E-01 CRITERION= .1453 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 657
*** TIME = .112029E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1463
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1434
HT FLOW CONVERGENCE VALUE= .2372E-01 CRITERION= .1447 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 658
*** TIME = .112818E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1457
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1450
HT FLOW CONVERGENCE VALUE= .2383E-01 CRITERION= .1442 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 659
*** TIME = .113607E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1452
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1435
HT FLOW CONVERGENCE VALUE= .2354E-01 CRITERION= .1436 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 660
*** TIME = .114396E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1446
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1451
HT FLOW CONVERGENCE VALUE= .2364E-01 CRITERION= .1430 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 661
*** TIME = .115185E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1440
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1435
HT FLOW CONVERGENCE VALUE= .2335E-01 CRITERION= .1424 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 662
*** TIME = .115974E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1435
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1451
HT FLOW CONVERGENCE VALUE= .2345E-01 CRITERION= .1419 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 663
*** TIME = .116763E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1436

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HT FLOW CONVERGENCE VALUE= .2317E-01 CRITERION= .1413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 664
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6511E-04 OSCILLATION LIMIT = 513.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1451
 HT FLOW CONVERGENCE VALUE= .2326E-01 CRITERION= .1407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 665
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1437
 HT FLOW CONVERGENCE VALUE= .2299E-01 CRITERION= .1401 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 666
 *** TIME = .119130E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6510E-04 OSCILLATION LIMIT = 513.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1452
 HT FLOW CONVERGENCE VALUE= .2307E-01 CRITERION= .1396 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 667
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1438
 HT FLOW CONVERGENCE VALUE= .2281E-01 CRITERION= .1390 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 668
 *** TIME = .120708E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6510E-04 OSCILLATION LIMIT = 513.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1452
 HT FLOW CONVERGENCE VALUE= .2289E-01 CRITERION= .1384 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 669
 *** TIME = .121497E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1439
 HT FLOW CONVERGENCE VALUE= .2263E-01 CRITERION= .1378 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 670
 *** TIME = .122286E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6510E-04 OSCILLATION LIMIT = 513.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1389
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1453
 HT FLOW CONVERGENCE VALUE= .2270E-01 CRITERION= .1373 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 671
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1384
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1440
 HT FLOW CONVERGENCE VALUE= .2245E-01 CRITERION= .1367 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 672
 *** TIME = .123864E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6510E-04 OSCILLATION LIMIT = 513.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1378
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1453
 HT FLOW CONVERGENCE VALUE= .2251E-01 CRITERION= .1361 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 673
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.35 CRITERION= .1372
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1441
 HT FLOW CONVERGENCE VALUE= .2226E-01 CRITERION= .1356 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 674
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6510E-04 OSCILLATION LIMIT = 513.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.44 CRITERION= .1366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1454
 HT FLOW CONVERGENCE VALUE= .2232E-01 CRITERION= .1350 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 675
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6523E-04 OSCILLATION LIMIT = 514.7

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:19:19 JUN 11, 1995 CP= 41785.230
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 4.208 CRITERION= .1350
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1524
 HT FLOW CONVERGENCE VALUE= .2484E-01 CRITERION= .1345 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 676
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.294 CRITERION= .1346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1520
 HT FLOW CONVERGENCE VALUE= .2470E-01 CRITERION= .1341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 677
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 12.71 CRITERION= .1346
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4653
 HT FLOW CONVERGENCE VALUE= .7310E-01 CRITERION= .1327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 678
 *** TIME = .130175E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 34.05 CRITERION= .1368

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.242
 HT FLOW CONVERGENCE VALUE= .1904 CRITERION= .1289
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4640E-01
 HT FLOW CONVERGENCE VALUE= .2332E-02 CRITERION= .1289 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 680
 *** TIME = .136487E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.96 CRITERION= .1331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.261
 HT FLOW CONVERGENCE VALUE= .1855 CRITERION= .1252
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4565E-01
 HT FLOW CONVERGENCE VALUE= .2215E-02 CRITERION= .1251 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 682
 *** TIME = .142798E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.05 CRITERION= .1295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.264
 HT FLOW CONVERGENCE VALUE= .1806 CRITERION= .1214
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4464E-01
 HT FLOW CONVERGENCE VALUE= .2103E-02 CRITERION= .1214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 684
 *** TIME = .149110E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 33.96 CRITERION= .1259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.265
 HT FLOW CONVERGENCE VALUE= .1751 CRITERION= .1177
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4346E-01
 HT FLOW CONVERGENCE VALUE= .1982E-02 CRITERION= .1176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 686
 *** TIME = .155421E+10 TIME INC = .631152E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= 12.79 CRITERION= .1183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4764
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .1163 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 687
 *** TIME = .157788E+10 TIME INC = .236682E+08
 *** RESPONSE EIGENVALUE = .4683E-04 OSCILLATION LIMIT = 1108.

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:30:07 JUN 11, 1995 CP= 42418.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 5.065 CRITERION= .1163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4089
 HT FLOW CONVERGENCE VALUE= .6439E-01 CRITERION= .1151 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 688
 *** TIME = .160155E+10 TIME INC = .236682E+08
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.981 CRITERION= .1152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4110
 HT FLOW CONVERGENCE VALUE= .6382E-01 CRITERION= .1141 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 689

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*** TIME = .162522E+10    TIME INC = .236682E+08
*** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

  HT FLOW CONVERGENCE VALUE= 13.44    CRITERION= .1147
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.120
  HT FLOW CONVERGENCE VALUE= .1666    CRITERION= .1111
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4118E-01
  HT FLOW CONVERGENCE VALUE= .2235E-02 CRITERION= .1111 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 691
*** TIME = .168833E+10    TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.35    CRITERION= .1118
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.140
  HT FLOW CONVERGENCE VALUE= .1635    CRITERION= .1082
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4073E-01
  HT FLOW CONVERGENCE VALUE= .2144E-02 CRITERION= .1082 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 693
*** TIME = .175145E+10    TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.44    CRITERION= .1088
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.140
  HT FLOW CONVERGENCE VALUE= .1591    CRITERION= .1052
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3977E-01
  HT FLOW CONVERGENCE VALUE= .2033E-02 CRITERION= .1052 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 695
*** TIME = .181456E+10    TIME INC = .631152E+08
*** AUTO TIME STEP: NEXT TIME INC = .39447E+08 DECREASED (FACTOR = .6250)

  HT FLOW CONVERGENCE VALUE= 8.330    CRITERION= .1054
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7144
  HT FLOW CONVERGENCE VALUE= .9811E-01 CRITERION= .1034 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 696
*** TIME = .185401E+10    TIME INC = .394470E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 8.414    CRITERION= .1036
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6884
  HT FLOW CONVERGENCE VALUE= .9519E-01 CRITERION= .1015 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 697
*** TIME = .189346E+10    TIME INC = .394470E+08

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:39:17 JUN 11, 1995 CP= 42958.880
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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  HT FLOW CONVERGENCE VALUE= 28.19    CRITERION= .1053
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6303
  HT FLOW CONVERGENCE VALUE= .9645E-01 CRITERION= .1001 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 698
*** TIME = .193290E+10    TIME INC = .394470E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 28.28    CRITERION= .1039
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6300
  HT FLOW CONVERGENCE VALUE= .9445E-01 CRITERION= .9857E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 699
 *** TIME = .197235E+10 TIME INC = .394470E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 1.6000)

HT FLOW CONVERGENCE VALUE= 45.14 CRITERION= .1083
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.025
 HT FLOW CONVERGENCE VALUE= .1481 CRITERION= .9621E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3632E-01
 HT FLOW CONVERGENCE VALUE= .2031E-02 CRITERION= .9619E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 701
 *** TIME = .203547E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.22 CRITERION= .1062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.048
 HT FLOW CONVERGENCE VALUE= .1454 CRITERION= .9383E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3601E-01
 HT FLOW CONVERGENCE VALUE= .1945E-02 CRITERION= .9381E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 703
 *** TIME = .209858E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.14 CRITERION= .1040
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.051
 HT FLOW CONVERGENCE VALUE= .1421 CRITERION= .9146E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3532E-01
 HT FLOW CONVERGENCE VALUE= .1857E-02 CRITERION= .9144E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 705
 *** TIME = .216170E+10 TIME INC = .631152E+08
 *** AUTO TIME STEP: NEXT TIME INC = .47336E+08 DECREASED (FACTOR = .7500)

HT FLOW CONVERGENCE VALUE= 33.93 CRITERION= .9745E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7879
 HT FLOW CONVERGENCE VALUE= .1045 CRITERION= .8966E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2605E-01
 HT FLOW CONVERGENCE VALUE= .1342E-02 CRITERION= .8965E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 707
 *** TIME = .220903E+10 TIME INC = .473364E+08

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:47:54 JUN 11, 1995 CP= 43466.440
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 64.36 CRITERION= .1103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7733
 HT FLOW CONVERGENCE VALUE= .1167 CRITERION= .8822E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2774E-01
 HT FLOW CONVERGENCE VALUE= .1676E-02 CRITERION= .8821E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 709
 *** TIME = .225637E+10 TIME INC = .473364E+08
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 523.7
 *** AUTO TIME STEP: NEXT TIME INC = .15779E+08 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 21.51 CRITERION= .9077E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2576
 HT FLOW CONVERGENCE VALUE= .3863E-01 CRITERION= .8772E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 710
 *** TIME = .227215E+10 TIME INC = .157788E+08

*** RESPONSE EIGENVALUE = .1161E-04 OSCILLATION LIMIT = 183.2
 *** AUTO TIME STEP: NEXT TIME INC = .78894E+07 DECREASED (FACTOR = .5000)

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8836E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1203
 HT FLOW CONVERGENCE VALUE= .1896E-01 CRITERION= .8749E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 711
 *** TIME = .228004E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1070E-04 OSCILLATION LIMIT = 84.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8814E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1238
 HT FLOW CONVERGENCE VALUE= .1891E-01 CRITERION= .8724E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 712
 *** TIME = .228793E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = 86.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8788E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1250
 HT FLOW CONVERGENCE VALUE= .1909E-01 CRITERION= .8701E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 713
 *** TIME = .229582E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8766E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1238
 HT FLOW CONVERGENCE VALUE= .1881E-01 CRITERION= .8675E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 714
 *** TIME = .230370E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = 86.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8740E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1251
 HT FLOW CONVERGENCE VALUE= .1899E-01 CRITERION= .8652E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 715
 *** TIME = .231159E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8718E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1238
 HT FLOW CONVERGENCE VALUE= .1871E-01 CRITERION= .8627E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 716
 *** TIME = .231948E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1102E-04 OSCILLATION LIMIT = 86.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8692E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1251
 HT FLOW CONVERGENCE VALUE= .1889E-01 CRITERION= .8604E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 717
 *** TIME = .232737E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8670E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1239
 HT FLOW CONVERGENCE VALUE= .1862E-01 CRITERION= .8579E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 718
*** TIME = .233526E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1102E-04 OSCILLATION LIMIT = 86.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8644E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1251
HT FLOW CONVERGENCE VALUE= .1879E-01 CRITERION= .8556E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 719
*** TIME = .234315E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8622E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1240
HT FLOW CONVERGENCE VALUE= .1852E-01 CRITERION= .8531E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 720
*** TIME = .235104E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 87.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8597E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
HT FLOW CONVERGENCE VALUE= .1868E-01 CRITERION= .8508E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 721
*** TIME = .235893E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8574E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1240
HT FLOW CONVERGENCE VALUE= .1842E-01 CRITERION= .8482E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 722
*** TIME = .236682E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8549E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
HT FLOW CONVERGENCE VALUE= .1858E-01 CRITERION= .8459E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 723
*** TIME = .237471E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8526E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1241
HT FLOW CONVERGENCE VALUE= .1833E-01 CRITERION= .8434E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 724
*** TIME = .238260E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8501E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
HT FLOW CONVERGENCE VALUE= .1848E-01 CRITERION= .8411E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 725
*** TIME = .239049E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8478E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1242

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HT FLOW CONVERGENCE VALUE= .1822E-01 CRITERION= .8386E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 726
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 87.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8453E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1253
 HT FLOW CONVERGENCE VALUE= .1837E-01 CRITERION= .8363E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 727
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8431E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1243
 HT FLOW CONVERGENCE VALUE= .1811E-01 CRITERION= .8338E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 728
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8405E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1253
 HT FLOW CONVERGENCE VALUE= .1818E-01 CRITERION= .8315E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 729
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8383E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1243
 HT FLOW CONVERGENCE VALUE= .1790E-01 CRITERION= .8289E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 730
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8357E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1253
 HT FLOW CONVERGENCE VALUE= .1803E-01 CRITERION= .8266E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 731
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8335E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1244
 HT FLOW CONVERGENCE VALUE= .1779E-01 CRITERION= .8241E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 732
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1107E-04 OSCILLATION LIMIT = 87.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8309E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1254
 HT FLOW CONVERGENCE VALUE= .1792E-01 CRITERION= .8218E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 733
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8287E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1245
 HT FLOW CONVERGENCE VALUE= .1769E-01 CRITERION= .8193E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 734
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8261E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1254
 HT FLOW CONVERGENCE VALUE= .1782E-01 CRITERION= .8170E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 735
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8239E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1245
 HT FLOW CONVERGENCE VALUE= .1759E-01 CRITERION= .8144E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 736
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8214E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1254
 HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .8121E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 737
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8191E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1246
 HT FLOW CONVERGENCE VALUE= .1745E-01 CRITERION= .8096E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 738
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8166E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1255
 HT FLOW CONVERGENCE VALUE= .1757E-01 CRITERION= .8073E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 739
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8143E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1247
 HT FLOW CONVERGENCE VALUE= .1736E-01 CRITERION= .8048E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 740
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.69 CRITERION= .8118E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1255
 HT FLOW CONVERGENCE VALUE= .1748E-01 CRITERION= .8025E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 741
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.70

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.78 CRITERION= .8096E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1247
 HT FLOW CONVERGENCE VALUE= .1726E-01 CRITERION= .8000E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 742
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = 87.57

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:24:59 JUN 11, 1995 CP= 45654.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.316 CRITERION= .8053E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1014
 HT FLOW CONVERGENCE VALUE= .1443E-01 CRITERION= .7982E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 743
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.403 CRITERION= .8036E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1011
 HT FLOW CONVERGENCE VALUE= .1424E-01 CRITERION= .7962E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 744
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 28.03 CRITERION= .8439E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3124
 HT FLOW CONVERGENCE VALUE= .4310E-01 CRITERION= .7906E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 745
 *** TIME = .256406E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 74.92 CRITERION= .1089
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8302
 HT FLOW CONVERGENCE VALUE= .1122 CRITERION= .7754E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2720E-01
 HT FLOW CONVERGENCE VALUE= .1450E-02 CRITERION= .7752E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 747
 *** TIME = .262717E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.83 CRITERION= .1077
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8428
 HT FLOW CONVERGENCE VALUE= .1107 CRITERION= .7602E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2699E-01
 HT FLOW CONVERGENCE VALUE= .1399E-02 CRITERION= .7601E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 749
 *** TIME = .269029E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.92 CRITERION= .1067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8425
 HT FLOW CONVERGENCE VALUE= .1082 CRITERION= .7449E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2649E-01
 HT FLOW CONVERGENCE VALUE= .1342E-02 CRITERION= .7448E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2


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*** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 751
*** TIME = .275340E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.84 CRITERION= .1056
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8442
HT FLOW CONVERGENCE VALUE= .1063 CRITERION= .7298E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2607E-01
HT FLOW CONVERGENCE VALUE= .1291E-02 CRITERION= .7297E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 753
*** TIME = .281652E+10 TIME INC = .631152E+08
*** AUTO TIME STEP: NEXT TIME INC = .23668E+08 DECREASED (FACTOR = .3750)

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HT FLOW CONVERGENCE VALUE= 28.13 CRITERION= .7817E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3164
HT FLOW CONVERGENCE VALUE= .3952E-01 CRITERION= .7239E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 754
*** TIME = .284018E+10 TIME INC = .236682E+08
Apply loads and solve for 100 to 1000 years

```

```

*DO LOOP ON PARAMETER= TM FROM .31558E+10 TO .31558E+11 BY .31558E+10
TIME= .31558E+10

```

```

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

```

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

```

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
1285.61410 .000000000E+00 .000000000E+00 .000000000E+00

```

```

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

```

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

```

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

```

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

```

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 182.87 .00000E+00 EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 183.14 .00000E+00 EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 183.78 .00000E+00 EXPANSION KEY = 1

```

***** ANSYS SOLVE COMMAND *****

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TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

```

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*** NOTE *** CP= 46289.710 TIME= 09:35:46
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.
1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:35:46 JUN 11, 1995 CP= 46289.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 31
 TIME AT END OF THE LOAD STEP.31558E+10
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 26.32 CRITERION= .7702E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2742
 HT FLOW CONVERGENCE VALUE= .3521E-01 CRITERION= .7190E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 755
 *** TIME = .286385E+10 TIME INC = .236682E+08
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.41 CRITERION= .7657E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2743
 HT FLOW CONVERGENCE VALUE= .3472E-01 CRITERION= .7139E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 756
 *** TIME = .288752E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 70.27 CRITERION= .1001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7481
 HT FLOW CONVERGENCE VALUE= .9129E-01 CRITERION= .7008E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2266E-01
 HT FLOW CONVERGENCE VALUE= .1079E-02 CRITERION= .7007E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 758
 *** TIME = .295064E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 70.36 CRITERION= .9924E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7564
 HT FLOW CONVERGENCE VALUE= .8968E-01 CRITERION= .6874E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2240E-01
 HT FLOW CONVERGENCE VALUE= .1037E-02 CRITERION= .6873E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 760
 *** TIME = .301375E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 70.27 CRITERION= .9827E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7581

HT FLOW CONVERGENCE VALUE= .8812E-01 CRITERION= .6742E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2205E-01
 HT FLOW CONVERGENCE VALUE= .9984E-03 CRITERION= .6741E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 762
 *** TIME = .307687E+10 TIME INC = .631152E+08
 *** AUTO TIME STEP: NEXT TIME INC = .39447E+08 DECREASED (FACTOR = .6250)

HT FLOW CONVERGENCE VALUE= 43.99 CRITERION= .8045E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4734
 HT FLOW CONVERGENCE VALUE= .5435E-01 CRITERION= .6657E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 763
 *** TIME = .311631E+10 TIME INC = .394470E+08
 *** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.91 CRITERION= .7972E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4607
 HT FLOW CONVERGENCE VALUE= .5335E-01 CRITERION= .6575E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 764
 *** TIME = .315576E+10 TIME INC = .394470E+08

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:44:56 JUN 11, 1995 CP= 46831.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 50.27 CRITERION= .8272E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4353
 HT FLOW CONVERGENCE VALUE= .5333E-01 CRITERION= .6503E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 765
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.18 CRITERION= .8213E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4363
 HT FLOW CONVERGENCE VALUE= .5280E-01 CRITERION= .6433E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 766
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 150.7 CRITERION= .1638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.334
 HT FLOW CONVERGENCE VALUE= .1532 CRITERION= .6221E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3775E-01
 HT FLOW CONVERGENCE VALUE= .1635E-02 CRITERION= .6219E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 768
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 150.6 CRITERION= .1630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.350
 HT FLOW CONVERGENCE VALUE= .1473 CRITERION= .6009E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3687E-01
 HT FLOW CONVERGENCE VALUE= .1504E-02 CRITERION= .6008E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 770
 *** TIME = .378691E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 401.9 CRITERION= .4063
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.603
HT FLOW CONVERGENCE VALUE= .3512 CRITERION= .5444E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8645E-01
HT FLOW CONVERGENCE VALUE= .3127E-02 CRITERION= .5440E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 772
*** TIME = .441806E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 401.9 CRITERION= .4056
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.616
HT FLOW CONVERGENCE VALUE= .3161 CRITERION= .4878E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7529E-01
HT FLOW CONVERGENCE VALUE= .2524E-02 CRITERION= .4875E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 774
*** TIME = .504922E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 402.1 CRITERION= .4050
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.627
HT FLOW CONVERGENCE VALUE= .2806 CRITERION= .4309E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6739E-01
HT FLOW CONVERGENCE VALUE= .1980E-02 CRITERION= .4306E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 776
*** TIME = .568037E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 402.1 CRITERION= .4044
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.638
HT FLOW CONVERGENCE VALUE= .2447 CRITERION= .3743E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5927E-01
HT FLOW CONVERGENCE VALUE= .1500E-02 CRITERION= .3740E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 778
*** TIME = .631152E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****
1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 09:56:48 JUN 11, 1995 CP= 47529.430
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 299.6 CRITERION= .3019
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.755
HT FLOW CONVERGENCE VALUE= .1458 CRITERION= .3564E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3227E-01
HT FLOW CONVERGENCE VALUE= .9474E-03 CRITERION= .3563E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 780
*** TIME = .694267E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 299.6 CRITERION= .3017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.757
HT FLOW CONVERGENCE VALUE= .1497 CRITERION= .3390E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3123E-01
HT FLOW CONVERGENCE VALUE= .8985E-03 CRITERION= .3389E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 782
*** TIME = .757382E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 299.7 CRITERION= .3016
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.759
 HT FLOW CONVERGENCE VALUE= .1451 CRITERION= .3213E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2989E-01
 HT FLOW CONVERGENCE VALUE= .8181E-03 CRITERION= .3212E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 784
 *** TIME = .820498E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 299.7 CRITERION= .3014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.761
 HT FLOW CONVERGENCE VALUE= .1371 CRITERION= .3039E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2845E-01
 HT FLOW CONVERGENCE VALUE= .7284E-03 CRITERION= .3038E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 786
 *** TIME = .883613E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 299.8 CRITERION= .3013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.763
 HT FLOW CONVERGENCE VALUE= .1241 CRITERION= .2862E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2677E-01
 HT FLOW CONVERGENCE VALUE= .6076E-03 CRITERION= .2861E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 788
 *** TIME = .946728E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:04:52 JUN 11, 1995 CP= 48006.480
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 162.5 CRITERION= .1650
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9654
 HT FLOW CONVERGENCE VALUE= .6440E-01 CRITERION= .2765E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1418E-01
 HT FLOW CONVERGENCE VALUE= .3037E-03 CRITERION= .2765E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 790
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.6 CRITERION= .1649
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9657
 HT FLOW CONVERGENCE VALUE= .6123E-01 CRITERION= .2667E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1360E-01
 HT FLOW CONVERGENCE VALUE= .2724E-03 CRITERION= .2666E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 792
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.5 CRITERION= .1647
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9665
 HT FLOW CONVERGENCE VALUE= .5846E-01 CRITERION= .2570E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1305E-01
 HT FLOW CONVERGENCE VALUE= .2526E-03 CRITERION= .2570E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 794
 *** TIME = .113607E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.6 CRITERION= .1646

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9670
 HT FLOW CONVERGENCE VALUE= .5630E-01 CRITERION= .2472E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1259E-01
 HT FLOW CONVERGENCE VALUE= .2347E-03 CRITERION= .2472E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 796
 *** TIME = .119919E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.6 CRITERION= .1644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9678
 HT FLOW CONVERGENCE VALUE= .5421E-01 CRITERION= .2376E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1215E-01
 HT FLOW CONVERGENCE VALUE= .2176E-03 CRITERION= .2375E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 798
 *** TIME = .126230E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:12:57 JUN 11, 1995 CP= 48484.020
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 107.6 CRITERION= .1101
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6393
 HT FLOW CONVERGENCE VALUE= .3494E-01 CRITERION= .2310E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7855E-02
 HT FLOW CONVERGENCE VALUE= .1373E-03 CRITERION= .2310E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 800
 *** TIME = .132542E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.5 CRITERION= .1100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6397
 HT FLOW CONVERGENCE VALUE= .3404E-01 CRITERION= .2247E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7663E-02
 HT FLOW CONVERGENCE VALUE= .1303E-03 CRITERION= .2247E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 802
 *** TIME = .138853E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.6 CRITERION= .1099
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6398
 HT FLOW CONVERGENCE VALUE= .3307E-01 CRITERION= .2182E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-02
 HT FLOW CONVERGENCE VALUE= .1231E-03 CRITERION= .2182E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 804
 *** TIME = .145165E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.5 CRITERION= .1097
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6402
 HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .2119E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7265E-02
 HT FLOW CONVERGENCE VALUE= .1164E-03 CRITERION= .2118E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 806
 *** TIME = .151476E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.6 CRITERION= .1096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6404

HT FLOW CONVERGENCE VALUE= .3119E-01 CRITERION= .2053E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7060E-02
 HT FLOW CONVERGENCE VALUE= .1096E-03 CRITERION= .2053E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 808
 *** TIME = .157788E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:21:05 JUN 11, 1995 CP= 48961.210
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 119.7 CRITERION= .1215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6314
 HT FLOW CONVERGENCE VALUE= .3262E-01 CRITERION= .2003E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7130E-02
 HT FLOW CONVERGENCE VALUE= .1130E-03 CRITERION= .2003E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 810
 *** TIME = .164100E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.8 CRITERION= .1214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6314
 HT FLOW CONVERGENCE VALUE= .3179E-01 CRITERION= .1951E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6963E-02
 HT FLOW CONVERGENCE VALUE= .1075E-03 CRITERION= .1951E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 812
 *** TIME = .170411E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.7 CRITERION= .1213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6318
 HT FLOW CONVERGENCE VALUE= .3103E-01 CRITERION= .1901E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6804E-02
 HT FLOW CONVERGENCE VALUE= .1023E-03 CRITERION= .1901E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 814
 *** TIME = .176723E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.8 CRITERION= .1213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6319
 HT FLOW CONVERGENCE VALUE= .3020E-01 CRITERION= .1849E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6636E-02
 HT FLOW CONVERGENCE VALUE= .9705E-04 CRITERION= .1849E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 816
 *** TIME = .183034E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.7 CRITERION= .1212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6323
 HT FLOW CONVERGENCE VALUE= .2943E-01 CRITERION= .1799E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6475E-02
 HT FLOW CONVERGENCE VALUE= .9212E-04 CRITERION= .1799E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 818
 *** TIME = .189346E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 10:29:11 JUN 11, 1995 CP= 49438.890
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 134.9 CRITERION= .1361
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6366
HT FLOW CONVERGENCE VALUE= .3140E-01 CRITERION= .1760E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6691E-02
HT FLOW CONVERGENCE VALUE= .9711E-04 CRITERION= .1760E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 820
*** TIME = .195657E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 134.8 CRITERION= .1360
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6369
HT FLOW CONVERGENCE VALUE= .3078E-01 CRITERION= .1722E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6566E-02
HT FLOW CONVERGENCE VALUE= .9326E-04 CRITERION= .1722E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 822
*** TIME = .201969E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 134.9 CRITERION= .1360
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6369
HT FLOW CONVERGENCE VALUE= .3010E-01 CRITERION= .1682E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6433E-02
HT FLOW CONVERGENCE VALUE= .8928E-04 CRITERION= .1682E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 824
*** TIME = .208280E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 134.8 CRITERION= .1359
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6373
HT FLOW CONVERGENCE VALUE= .2947E-01 CRITERION= .1645E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6308E-02
HT FLOW CONVERGENCE VALUE= .8557E-04 CRITERION= .1645E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 826
*** TIME = .214592E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 134.9 CRITERION= .1359
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6373
HT FLOW CONVERGENCE VALUE= .2879E-01 CRITERION= .1605E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6173E-02
HT FLOW CONVERGENCE VALUE= .8173E-04 CRITERION= .1605E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 828
*** TIME = .220903E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:37:16 JUN 11, 1995 CP= 49916.350
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 144.1 CRITERION= .1451
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6489
HT FLOW CONVERGENCE VALUE= .2980E-01 CRITERION= .1573E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6304E-02
HT FLOW CONVERGENCE VALUE= .8331E-04 CRITERION= .1573E-01 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 830
*** TIME = .227215E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.2 CRITERION= .1451
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6490
HT FLOW CONVERGENCE VALUE= .2919E-01 CRITERION= .1539E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6185E-02
HT FLOW CONVERGENCE VALUE= .7998E-04 CRITERION= .1539E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 832
*** TIME = .233526E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.2 CRITERION= .1450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6493
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .1507E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6073E-02
HT FLOW CONVERGENCE VALUE= .7688E-04 CRITERION= .1507E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 834
*** TIME = .239838E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.3 CRITERION= .1450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6493
HT FLOW CONVERGENCE VALUE= .2800E-01 CRITERION= .1472E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5953E-02
HT FLOW CONVERGENCE VALUE= .7366E-04 CRITERION= .1472E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 836
*** TIME = .246149E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.2 CRITERION= .1450
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6496
HT FLOW CONVERGENCE VALUE= .2742E-01 CRITERION= .1440E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5839E-02
HT FLOW CONVERGENCE VALUE= .7067E-04 CRITERION= .1440E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 838
*** TIME = .252461E+11 TIME INC = .631152E+09

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:45:22 JUN 11, 1995 CP= 50394.450
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 137.5 CRITERION= .1382
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5978
HT FLOW CONVERGENCE VALUE= .2544E-01 CRITERION= .1413E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5371E-02
HT FLOW CONVERGENCE VALUE= .6462E-04 CRITERION= .1413E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 840
*** TIME = .258772E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.4 CRITERION= .1381
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5981
HT FLOW CONVERGENCE VALUE= .2501E-01 CRITERION= .1387E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-02
HT FLOW CONVERGENCE VALUE= .6248E-04 CRITERION= .1387E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

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*** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 842
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.5 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5981
 HT FLOW CONVERGENCE VALUE= .2454E-01 CRITERION= .1360E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5198E-02
 HT FLOW CONVERGENCE VALUE= .6021E-04 CRITERION= .1360E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 844
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.4 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5983
 HT FLOW CONVERGENCE VALUE= .2412E-01 CRITERION= .1335E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5114E-02
 HT FLOW CONVERGENCE VALUE= .5813E-04 CRITERION= .1335E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 846
 *** TIME = .277707E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.5 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5983
 HT FLOW CONVERGENCE VALUE= .2365E-01 CRITERION= .1307E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5023E-02
 HT FLOW CONVERGENCE VALUE= .5593E-04 CRITERION= .1307E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 848
 *** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:53:28 JUN 11, 1995 CP= 50872.660
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 123.5 CRITERION= .1242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5302
 HT FLOW CONVERGENCE VALUE= .2087E-01 CRITERION= .1286E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4420E-02
 HT FLOW CONVERGENCE VALUE= .4873E-04 CRITERION= .1286E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 850
 *** TIME = .290330E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.6 CRITERION= .1243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5301
 HT FLOW CONVERGENCE VALUE= .2052E-01 CRITERION= .1263E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4353E-02
 HT FLOW CONVERGENCE VALUE= .4715E-04 CRITERION= .1263E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 852
 *** TIME = .296641E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.6 CRITERION= .1242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5304
 HT FLOW CONVERGENCE VALUE= .2021E-01 CRITERION= .1243E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4291E-02
 HT FLOW CONVERGENCE VALUE= .4571E-04 CRITERION= .1243E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 854

*** TIME = .302953E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.6 CRITERION= .1242
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5303
HT FLOW CONVERGENCE VALUE= .1986E-01 CRITERION= .1220E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4223E-02
HT FLOW CONVERGENCE VALUE= .4417E-04 CRITERION= .1220E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 856
*** TIME = .309264E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.6 CRITERION= .1242
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5306
HT FLOW CONVERGENCE VALUE= .1954E-01 CRITERION= .1199E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4160E-02
HT FLOW CONVERGENCE VALUE= .4277E-04 CRITERION= .1199E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 858
*** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 51349.360

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21x.db
FOR POSSIBLE RESUME FROM THIS POINT

Create element contour plots of solution results

Sort through solution results for time of max temp.

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:01:38 JUN 11, 1995 CP= 51355.370
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= peakclad

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES
VARI TYPE IDENTIFIERS NAME MINIMUM AT TIME MAXIMUM AT TIME
2 NSOL 9 TEMP peakclad 158.9 .3156E+11 250.7 .2525E+09

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 252460832.

***** ROUTINE COMPLETED ***** CP = 51355.640

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:01:40 JUN 11, 1995 CP= 51355.670
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****
Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4459 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .25246E+09

SET COMMAND GOT LOAD STEP= 20 SUBSTEP= 40 CUMULATIVE ITERATION= 475
TIME/FREQUENCY= .25246E+09

TITLE=
21 PWR UCF/WP at Time of Peak Temp. (8.000001 years)

/SHOW SWITCH PLOTS TO FILE solupk.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 AUTOMATIC CONTOURS

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solupk.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at Time of Peak Temp. (8.000001 years)

*** WARNING *** CP= 51393.230 TIME= 11:02:20
The selected element set contains mixed materials.
This could invalidate error estimation.
Create temperature contour plots at 10, 50, and 100 yrs

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+09

SET COMMAND GOT LOAD STEP= 22 SUBSTEP= 40 CUMULATIVE ITERATION= 555
TIME/FREQUENCY= .31558E+09

TITLE=
21 PWR UCF/WP at 10 years.

/SHOW SWITCH PLOTS TO FILE solu10.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 161.95 BY .69863 TO 250.68

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 10 years

*** WARNING *** CP= 51440.070 TIME= 11:03:07
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+10

SET COMMAND GOT LOAD STEP= 26 SUBSTEP= 8 CUMULATIVE ITERATION= 687
TIME/FREQUENCY= .15779E+10

TITLE=
21 PWR UCF/WP at 50 years

/SHOW SWITCH PLOTS TO FILE solu50.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 161.95 BY .69863 TO 250.68

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 50 years

*** WARNING *** CP= 51487.600 TIME= 11:03:55
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+10

SET COMMAND GOT LOAD STEP= 31 SUBSTEP= 7 CUMULATIVE ITERATION= 764
TIME/FREQUENCY= .31558E+10

TITLE=
21 PWR UCF/WP at 100 years

/SHOW SWITCH PLOTS TO FILE solu100.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 161.95 BY .69863 TO 250.68

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 100 years

*** WARNING *** CP= 51534.560 TIME= 11:04:42
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 51543.720

Print time/temperature output at specific locations
Save profile from center to edge

Variable Legend: A01i000

c = center of assembly
h = halfway between center and tube
s = inside structural stainless tube layer
t = stainless tube cladding
g = tube guide
i = inner barrier of DC
o = outer barrier of DC
= ID number of assembly (01 is center)
i = side of assembly toward center of WP
o = side of assembly toward edge of WP
000 = profile center down
045 = profile 45 deg down
090 = profile center side
135 = profile 45 deg up
180 = profile center up

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:04:51 JUN 11, 1995 CP= 51543.730
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 30

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2	IS AT NODE	9	ITEM= TEMP COMP=	NAME= c01i000
VARIABLE 3	IS AT NODE	6	ITEM= TEMP COMP=	NAME= h01o000
VARIABLE 4	IS AT NODE	1	ITEM= TEMP COMP=	NAME= s01o000
VARIABLE 5	IS AT NODE	346	ITEM= TEMP COMP=	NAME= t01o000
VARIABLE 6	IS AT NODE	3820	ITEM= TEMP COMP=	NAME= ts1o000
VARIABLE 7	IS AT NODE	858	ITEM= TEMP COMP=	NAME= t06i000
VARIABLE 8	IS AT NODE	695	ITEM= TEMP COMP=	NAME= s06i000
VARIABLE 9	IS AT NODE	706	ITEM= TEMP COMP=	NAME= h06i000
VARIABLE 10	IS AT NODE	702	ITEM= TEMP COMP=	NAME= c06i000
VARIABLE 11	IS AT NODE	699	ITEM= TEMP COMP=	NAME= h06o000
VARIABLE 12	IS AT NODE	694	ITEM= TEMP COMP=	NAME= s06o000
VARIABLE 13	IS AT NODE	814	ITEM= TEMP COMP=	NAME= t13i000
VARIABLE 14	IS AT NODE	1051	ITEM= TEMP COMP=	NAME= s13i000
VARIABLE 15	IS AT NODE	1062	ITEM= TEMP COMP=	NAME= h13i000

VARIABLE 16 IS AT NODE 1058 ITEM= TEMP COMP= NAME= c13i000
 VARIABLE 17 IS AT NODE 1055 ITEM= TEMP COMP= NAME= h13o000
 VARIABLE 18 IS AT NODE 1050 ITEM= TEMP COMP= NAME= s13o000
 VARIABLE 19 IS AT NODE 1170 ITEM= TEMP COMP= NAME= t13o000
 VARIABLE 20 IS AT NODE 4304 ITEM= TEMP COMP= NAME= i13i000
 VARIABLE 21 IS AT NODE 4240 ITEM= TEMP COMP= NAME= i13o000
 VARIABLE 22 IS AT NODE 4487 ITEM= TEMP COMP= NAME= o13o000

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i000	158.9	.3156E+11	250.7	.2525E+09
3 NSOL	6 TEMP	h01o000	158.7	.3156E+11	247.7	.2525E+09
4 NSOL	1 TEMP	s01o000	132.0	.1000E-05	232.6	.3156E+09
5 NSOL	346 TEMP	t01o000	131.9	.1000E-05	232.5	.3156E+09
6 NSOL	3820 TEMP	ts1o000	131.9	.1000E-05	232.5	.3156E+09
7 NSOL	858 TEMP	t06i000	131.9	.1000E-05	232.5	.3156E+09
8 NSOL	695 TEMP	s06i000	132.0	.1000E-05	232.6	.3156E+09
9 NSOL	706 TEMP	h06i000	153.0	.1000E-05	244.0	.3156E+09
10 NSOL	702 TEMP	c06i000	158.8	.3156E+11	248.6	.2525E+09
11 NSOL	699 TEMP	h06o000	156.8	.1000E-05	245.9	.2525E+09
12 NSOL	694 TEMP	s06o000	135.4	.1000E-05	233.9	.3156E+09
13 NSOL	814 TEMP	t13i000	135.3	.1000E-05	233.9	.3156E+09
14 NSOL	1051 TEMP	s13i000	135.3	.1000E-05	233.9	.3156E+09
15 NSOL	1062 TEMP	h13i000	143.3	.1000E-05	236.7	.3156E+09
16 NSOL	1058 TEMP	c13i000	141.1	.1000E-05	233.6	.3156E+09
17 NSOL	1055 TEMP	h13o000	129.7	.1000E-05	226.2	.6312E+09
18 NSOL	1050 TEMP	s13o000	93.09	.1000E-05	209.6	.9467E+09
19 NSOL	1170 TEMP	t13o000	92.95	.1000E-05	209.5	.9467E+09
20 NSOL	4304 TEMP	i13i000	29.66	.1000E-05	190.7	.1578E+10
21 NSOL	4240 TEMP	i13o000	28.98	.1000E-05	190.3	.1578E+10
22 NSOL	4487 TEMP	o13o000	26.14	.1000E-05	189.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:04:55 JUN 11, 1995 CP= 51547.010
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i000	6 TEMP h01o000	1 TEMP s01o000	346 TEMP t01o000	3820 TEMP ts1o000	858 TEMP t06i000
.10000E-05	163.925	158.944	131.986	131.892	131.892	131.899
.20000E-05	197.493	192.996	168.918	168.826	168.826	168.833
31.558	197.492	192.996	168.918	168.826	168.826	168.833
.31558E+07	220.060	215.984	193.929	193.840	193.840	193.847
.63116E+07	225.209	221.217	199.624	199.537	199.536	199.543
.94673E+07	228.301	224.359	203.066	202.979	202.979	202.986
.12623E+08	230.548	226.647	205.597	205.511	205.511	205.517
.15779E+08	232.275	228.413	207.590	207.504	207.504	207.511
.18935E+08	233.710	229.881	209.246	209.161	209.160	209.167
.22090E+08	234.899	231.101	210.640	210.555	210.555	210.561
.25246E+08	235.878	232.108	211.804	211.720	211.719	211.726
.28402E+08	236.737	232.993	212.833	212.750	212.749	212.756
.31558E+08	237.505	233.785	213.764	213.681	213.680	213.687
.63115E+08	242.494	238.959	219.976	219.896	219.896	219.902

.94673E+08	245.078	241.682	223.479	223.402	223.402	223.408
.12623E+09	246.950	243.668	226.103	226.028	226.028	226.034
.15779E+09	248.643	245.456	228.415	228.342	228.342	228.347
.18935E+09	249.361	246.274	229.782	229.711	229.711	229.717
.22090E+09	250.078	247.069	231.007	230.938	230.938	230.944
.25246E+09	250.677	247.741	232.082	232.014	232.014	232.019
.28402E+09	250.485	247.611	232.292	232.226	232.225	232.231
.31558E+09	250.458	247.634	232.591	232.526	232.526	232.531
.63115E+09	246.951	244.601	232.134	232.080	232.080	232.084
.94673E+09	243.429	241.435	230.888	230.843	230.843	230.846
.12623E+10	237.658	235.925	226.780	226.742	226.741	226.744
.15779E+10	231.560	230.043	222.049	222.015	222.015	222.018
.18935E+10	226.059	224.714	217.633	217.603	217.603	217.606
.22090E+10	221.021	219.814	213.462	213.436	213.436	213.438
.25246E+10	216.031	214.938	209.192	209.169	209.169	209.171
.28402E+10	211.947	210.946	205.689	205.668	205.668	205.670
.31558E+10	208.269	207.351	202.529	202.510	202.509	202.511
.63115E+10	190.592	190.041	187.159	187.148	187.148	187.149
.94673E+10	181.942	181.510	179.251	179.243	179.243	179.243
.12623E+11	177.173	176.810	174.910	174.903	174.903	174.904
.15779E+11	174.010	173.693	172.035	172.029	172.029	172.030
.18935E+11	170.884	170.604	169.138	169.133	169.133	169.133
.22090E+11	167.729	167.477	166.157	166.152	166.152	166.152
.25246E+11	164.512	164.284	163.088	163.084	163.084	163.084
.28402E+11	161.547	161.337	160.241	160.237	160.237	160.238
.31558E+11	158.915	158.722	157.709	157.706	157.706	157.706

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:04:55 JUN 11, 1995 CP= 51547.020
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	695 TEMP s06i000	706 TEMP h06i000	702 TEMP c06i000	699 TEMP h06o000	694 TEMP s06o000	814 TEMP t13i000
.10000E-05	131.985	152.953	161.087	156.784	135.386	135.325
.20000E-05	168.915	187.442	194.608	190.655	171.572	171.512
31.558	168.915	187.442	194.607	190.655	171.573	171.512
.31558E+07	193.926	210.964	217.565	213.945	196.517	196.459
.63116E+07	199.622	216.276	222.717	219.154	202.087	202.028
.94673E+07	203.064	219.468	225.811	222.285	205.451	205.394
.12623E+08	205.595	221.798	228.062	224.567	207.918	207.861
.15779E+08	207.588	223.603	229.793	226.328	209.861	209.804
.18935E+08	209.243	225.106	231.235	227.796	211.472	211.415
.22090E+08	210.637	226.358	232.431	229.015	212.827	212.771
.25246E+08	211.801	227.395	233.419	230.025	213.963	213.907
.28402E+08	212.831	228.308	234.286	230.913	214.962	214.906
.31558E+08	213.761	229.128	235.062	231.708	215.866	215.810
.63115E+08	219.974	234.510	240.120	236.917	221.886	221.833
.94673E+08	223.477	237.395	242.766	239.680	225.258	225.206
.12623E+09	226.101	239.517	244.694	241.705	227.783	227.732
.15779E+09	228.412	241.416	246.433	243.524	230.013	229.964
.18935E+09	229.780	242.358	247.212	244.391	231.312	231.264
.22090E+09	231.005	243.249	247.975	245.222	232.482	232.435
.25246E+09	232.079	244.011	248.618	245.930	233.506	233.461
.28402E+09	232.289	243.959	248.465	245.833	233.678	233.634
.31558E+09	232.589	244.045	248.470	245.884	233.946	233.903
.63115E+09	232.132	241.619	245.298	243.146	233.249	233.213
.94673E+09	230.886	238.911	242.033	240.209	231.834	231.803
.12623E+10	226.779	233.742	236.462	234.882	227.622	227.595
.15779E+10	222.048	228.142	230.532	229.154	222.809	222.787
.18935E+10	217.632	223.038	225.164	223.947	218.329	218.309
.22090E+10	213.461	218.318	220.236	219.148	214.110	214.092
.25246E+10	209.192	213.591	215.333	214.352	209.796	209.780

.28402E+10	205.688	209.718	211.319	210.423	206.255	206.241
.31558E+10	202.528	206.229	207.703	206.883	203.060	203.047
.63115E+10	187.159	189.382	190.277	189.792	187.508	187.500
.94673E+10	179.251	180.998	181.704	181.326	179.537	179.531
.12623E+11	174.910	176.381	176.978	176.661	175.156	175.151
.15779E+11	172.035	173.320	173.842	173.566	172.253	172.249
.18935E+11	169.138	170.275	170.738	170.494	169.332	169.329
.22090E+11	166.157	167.182	167.600	167.380	166.334	166.330
.25246E+11	163.088	164.017	164.396	164.198	163.249	163.247
.28402E+11	160.241	161.093	161.441	161.260	160.391	160.389
.31558E+11	157.709	158.497	158.820	158.652	157.849	157.846

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:04:55 JUN 11, 1995 CP= 51547.030
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1051 TEMP s131000	1062 TEMP h131000	1058 TEMP c131000	1055 TEMP h130000	1050 TEMP s130000	1170 TEMP t130000
.10000E-05	135.336	143.331	141.098	129.745	93.0919	92.9477
.20000E-05	171.520	177.747	174.757	163.685	129.097	128.946
31.558	171.520	177.747	174.757	163.685	129.097	128.946
.31558E+07	196.464	201.659	198.314	187.597	154.834	154.681
.63116E+07	202.033	206.973	203.538	192.891	160.501	160.347
.94673E+07	205.398	210.194	206.721	196.137	164.036	163.882
.12623E+08	207.865	212.559	209.064	198.536	166.688	166.534
.15779E+08	209.808	214.393	210.878	200.417	168.810	168.656
.18935E+08	211.419	215.931	212.405	201.999	170.600	170.446
.22090E+08	212.774	217.214	213.680	203.328	172.129	171.976
.25246E+08	213.910	218.285	214.747	204.447	173.437	173.285
.28402E+08	214.910	219.232	215.691	205.440	174.606	174.454
.31558E+08	215.813	220.083	216.541	206.339	175.677	175.526
.63115E+08	221.835	225.742	222.220	212.406	183.107	182.960
.94673E+08	225.208	228.869	225.394	215.899	187.693	187.550
.12623E+09	227.734	231.204	227.777	218.553	191.265	191.125
.15779E+09	229.965	233.279	229.893	220.893	194.358	194.221
.18935E+09	231.266	234.439	231.121	222.376	196.674	196.541
.22090E+09	232.436	235.498	232.232	223.686	198.635	198.504
.25246E+09	233.462	236.422	233.207	224.849	200.409	200.281
.28402E+09	233.635	236.520	233.362	225.175	201.276	201.150
.31558E+09	233.903	236.727	233.613	225.563	202.097	201.974
.63115E+09	233.213	235.523	232.898	226.194	206.850	206.748
.94673E+09	231.804	233.750	231.512	225.832	209.557	209.471
.12623E+10	227.596	229.308	227.392	222.493	208.498	208.424
.15779E+10	222.787	224.314	222.670	218.417	206.285	206.222
.18935E+10	218.310	219.688	218.261	214.519	203.855	203.800
.22090E+10	214.093	215.358	214.107	210.778	201.290	201.242
.25246E+10	209.781	210.949	209.842	206.854	198.331	198.288
.28402E+10	206.242	207.328	206.335	203.617	195.865	195.826
.31558E+10	203.048	204.060	203.164	200.685	193.616	193.580
.63115E+10	187.501	188.147	187.657	186.217	182.103	182.083
.94673E+10	179.532	180.055	179.690	178.578	175.392	175.376
.12623E+11	175.151	175.601	175.303	174.376	171.715	171.702
.15779E+11	172.249	172.646	172.392	171.588	169.276	169.265
.18935E+11	169.329	169.686	169.466	168.759	166.724	166.715
.22090E+11	166.331	166.656	166.463	165.829	164.004	163.996
.25246E+11	163.247	163.546	163.375	162.806	161.161	161.153
.28402E+11	160.389	160.666	160.514	159.995	158.494	158.487
.31558E+11	157.847	158.106	157.969	157.492	156.110	156.104

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:04:55 JUN 11, 1995 CP= 51547.050

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4304 TEMP	4240 TEMP	4487 TEMP
	i13i000	i13o000	o13o000
.10000E-05	29.6636	28.9767	26.1379
.20000E-05	72.8433	72.0622	69.2535
31.558	72.8433	72.0622	69.2535
.31558E+07	104.357	103.535	100.945
.63116E+07	111.149	110.320	107.733
.94673E+07	115.507	114.676	112.095
.12623E+08	118.853	118.022	115.446
.15779E+08	121.561	120.730	118.164
.18935E+08	123.873	123.044	120.485
.22090E+08	125.874	125.046	122.497
.25246E+08	127.611	126.786	124.247
.28402E+08	129.176	128.352	125.822
.31558E+08	130.625	129.803	127.283
.63115E+08	140.890	140.091	137.648
.94673E+08	147.582	146.803	144.431
.12623E+09	152.857	152.097	149.786
.15779E+09	157.335	156.591	154.328
.18935E+09	161.087	160.362	158.162
.22090E+09	164.161	163.452	161.299
.25246E+09	166.965	166.270	164.163
.28402E+09	168.693	168.013	165.948
.31558E+09	170.208	169.539	167.508
.63115E+09	181.209	180.653	178.967
.94673E+09	188.353	187.883	186.462
.12623E+10	190.410	190.008	188.793
.15779E+10	190.671	190.326	189.281
.18935E+10	190.164	189.863	188.953
.22090E+10	189.140	188.876	188.075
.25246E+10	187.417	187.182	186.470
.28402E+10	185.934	185.723	185.080
.31558E+10	184.554	184.363	183.782
.63115E+10	176.803	176.696	176.371
.94673E+10	171.260	171.180	170.933
.12623E+11	168.253	168.186	167.983
.15779E+11	166.262	166.205	166.030
.18935E+11	164.066	164.016	163.863
.22090E+11	161.613	161.568	161.432
.25246E+11	158.998	158.958	158.836
.28402E+11	156.514	156.478	156.368
.31558E+11	154.284	154.251	154.150

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i045

*** WARNING *** CP= 51547.210 TIME= 11:04:55
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 84 ITEM= TEMP COMP= NAME= h01o045

VARIABLE 4 IS AT NODE 23 ITEM= TEMP COMP= NAME= s01o045

VARIABLE 5 IS AT NODE 348 ITEM= TEMP COMP= NAME= t01o045

VARIABLE 6 IS AT NODE 3831 ITEM= TEMP COMP= NAME= ts1o045

VARIABLE 7 IS AT NODE 2465 ITEM= TEMP COMP= NAME= t08i045

VARIABLE 8 IS AT NODE 2240 ITEM= TEMP COMP= NAME= s08i045
 VARIABLE 9 IS AT NODE 2331 ITEM= TEMP COMP= NAME= h08i045
 VARIABLE 10 IS AT NODE 2379 ITEM= TEMP COMP= NAME= c08i045
 VARIABLE 11 IS AT NODE 2427 ITEM= TEMP COMP= NAME= h08o045
 VARIABLE 12 IS AT NODE 2268 ITEM= TEMP COMP= NAME= s08o045
 VARIABLE 13 IS AT NODE 2494 ITEM= TEMP COMP= NAME= g08i045
 VARIABLE 14 IS AT NODE 3689 ITEM= TEMP COMP= NAME= g08o045
 VARIABLE 15 IS AT NODE 4332 ITEM= TEMP COMP= NAME= i08i045
 VARIABLE 16 IS AT NODE 4272 ITEM= TEMP COMP= NAME= i08o045
 VARIABLE 17 IS AT NODE 4521 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 11 and 12
 VARIABLE 18 IS AT NODE 3390 ITEM= TEMP COMP= NAME= c11i045
 VARIABLE 19 IS AT NODE 2716 ITEM= TEMP COMP= NAME= c12i045

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i045	158.9	.3156E+11	250.7	.2525E+09
3 NSOL	84 TEMP	h01o045	149.1	.1000E-05	242.1	.3156E+09
4 NSOL	23 TEMP	s01o045	130.6	.1000E-05	231.5	.3156E+09
5 NSOL	348 TEMP	t01o045	129.5	.1000E-05	230.8	.3156E+09
6 NSOL	3831 TEMP	ts1o045	129.4	.1000E-05	230.8	.3156E+09
7 NSOL	2465 TEMP	t08i045	129.4	.1000E-05	230.8	.3156E+09
8 NSOL	2240 TEMP	s08i045	128.2	.1000E-05	230.0	.6312E+09
9 NSOL	2331 TEMP	h08i045	144.3	.1000E-05	238.5	.3156E+09
10 NSOL	2379 TEMP	c08i045	158.7	.3156E+11	245.7	.2525E+09
11 NSOL	2427 TEMP	h08o045	142.3	.1000E-05	233.4	.3156E+09
12 NSOL	2268 TEMP	s08o045	110.6	.1000E-05	216.5	.9467E+09
13 NSOL	2494 TEMP	g08i045	108.8	.1000E-05	215.6	.9467E+09
14 NSOL	3689 TEMP	g08o045	105.5	.1000E-05	213.9	.9467E+09
15 NSOL	4332 TEMP	i08i045	28.27	.1000E-05	189.9	.1578E+10
16 NSOL	4272 TEMP	i08o045	27.44	.1000E-05	189.5	.1578E+10
17 NSOL	4521 TEMP	o08o045	26.14	.1000E-05	188.8	.1578E+10
18 NSOL	3390 TEMP	c11i045	129.9	.1000E-05	224.7	.6312E+09
19 NSOL	2716 TEMP	c12i045	130.1	.1000E-05	225.2	.6312E+09
20 NSOL	4304 TEMP	i13i000	29.66	.1000E-05	190.7	.1578E+10
21 NSOL	4240 TEMP	i13o000	28.98	.1000E-05	190.3	.1578E+10
22 NSOL	4487 TEMP	o13o000	26.14	.1000E-05	189.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:04:57 JUN 11, 1995 CP= 51549.880
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i045	84 TEMP h01o045	23 TEMP s01o045	348 TEMP t01o045	3831 TEMP ts1o045	2465 TEMP t08i045
.10000E-05	163.925	149.105	130.562	129.468	129.441	129.419
.20000E-05	197.493	184.196	167.520	166.458	166.432	166.411
31.558	197.492	184.196	167.520	166.458	166.432	166.411

.31558E+07	220.060	207.896	192.515	191.520	191.495	191.475
.63116E+07	225.209	213.298	198.217	197.229	197.204	197.184
.94673E+07	228.301	216.547	201.667	200.685	200.661	200.641
.12623E+08	230.548	218.922	204.205	203.230	203.206	203.186
.15779E+08	232.275	220.769	206.205	205.236	205.212	205.192
.18935E+08	233.710	222.306	207.868	206.905	206.880	206.861
.22090E+08	234.899	223.589	209.269	208.311	208.287	208.267
.25246E+08	235.878	224.651	210.439	209.485	209.461	209.442
.28402E+08	236.737	225.589	211.475	210.527	210.503	210.483
.31558E+08	237.505	226.431	212.412	211.468	211.444	211.425
.63115E+08	242.494	231.980	218.676	217.770	217.747	217.729
.94673E+08	245.078	234.985	222.222	221.347	221.325	221.307
.12623E+09	246.950	237.202	224.883	224.035	224.013	223.996
.15779E+09	248.643	239.180	227.225	226.398	226.377	226.361
.18935E+09	249.361	240.197	228.627	227.825	227.805	227.789
.22090E+09	250.078	241.148	229.880	229.097	229.078	229.062
.25246E+09	250.677	241.967	230.980	230.216	230.196	230.181
.28402E+09	250.485	241.960	231.214	230.466	230.447	230.432
.31558E+09	250.458	242.084	231.532	230.798	230.779	230.764
.63115E+09	246.951	239.990	231.260	230.655	230.640	230.627
.94673E+09	243.429	237.527	230.153	229.644	229.631	229.621
.12623E+10	237.658	232.531	226.151	225.714	225.703	225.694
.15779E+10	231.560	227.072	221.505	221.128	221.119	221.111
.18935E+10	226.059	222.079	217.156	216.827	216.818	216.812
.22090E+10	221.021	217.447	213.040	212.748	212.741	212.735
.25246E+10	216.031	212.795	208.815	208.554	208.548	208.542
.28402E+10	211.947	208.984	205.347	205.110	205.105	205.100
.31558E+10	208.269	205.550	202.218	202.003	201.998	201.993
.63115E+10	190.592	188.960	186.980	186.857	186.854	186.852
.94673E+10	181.942	180.662	179.113	179.019	179.017	179.015
.12623E+11	177.173	176.096	174.796	174.718	174.716	174.714
.15779E+11	174.010	173.070	171.936	171.868	171.866	171.865
.18935E+11	170.884	170.053	169.051	168.992	168.991	168.990
.22090E+11	167.729	166.980	166.079	166.026	166.024	166.023
.25246E+11	164.512	163.834	163.019	162.971	162.970	162.969
.28402E+11	161.547	160.924	160.178	160.134	160.133	160.133
.31558E+11	158.915	158.341	157.651	157.612	157.611	157.610

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:04:57 JUN 11, 1995 CP= 51549.890
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2240 TEMP s08i045	2331 TEMP h08i045	2379 TEMP c08i045	2427 TEMP h08o045	2268 TEMP s08o045	2494 TEMP g08i045
.10000E-05	128.152	144.291	159.434	142.309	110.571	108.821
.20000E-05	165.215	179.380	192.265	175.644	145.469	143.753
31.558	165.215	179.380	192.265	175.644	145.469	143.753
.31558E+07	190.372	203.319	214.741	198.605	169.621	167.930
.63116E+07	196.094	208.738	219.797	203.781	175.070	173.383
.94673E+07	199.562	212.004	222.846	206.923	178.440	176.762
.12623E+08	202.116	214.395	225.065	209.223	180.946	179.278
.15779E+08	204.131	216.259	226.770	211.018	182.941	181.281
.18935E+08	205.807	217.813	228.195	212.520	184.617	182.966
.22090E+08	207.220	219.113	229.377	213.776	186.041	184.397
.25246E+08	208.402	220.193	230.354	214.823	187.247	185.612
.28402E+08	209.450	221.148	231.214	215.753	188.325	186.697
.31558E+08	210.398	222.007	231.984	216.589	189.306	187.686
.63115E+08	216.749	227.701	237.029	222.180	196.055	194.496
.94673E+08	220.365	230.833	239.697	225.306	200.114	198.608
.12623E+09	223.085	233.160	241.654	227.654	203.247	201.785
.15779E+09	225.475	235.228	243.418	229.743	205.982	204.557
.18935E+09	226.932	236.355	244.246	230.943	207.902	206.519

.22090E+09	228.227	237.391	245.047	232.036	209.556	208.206
.25246E+09	229.366	238.290	245.729	232.995	211.042	209.723
.28402E+09	229.635	238.357	245.622	233.141	211.660	210.369
.31558E+09	229.982	238.540	245.663	233.385	212.282	211.014
.63115E+09	229.983	237.042	242.897	232.620	215.151	214.102
.94673E+09	229.079	235.033	239.964	231.221	216.479	215.596
.12623E+10	225.228	230.387	234.678	227.115	214.419	213.661
.15779E+10	220.707	225.219	228.993	222.411	211.395	210.740
.18935E+10	216.457	220.456	223.820	218.019	208.329	207.755
.22090E+10	212.420	216.012	219.051	213.878	205.253	204.744
.25246E+10	208.260	211.512	214.281	209.629	201.880	201.425
.28402E+10	204.843	207.822	210.370	206.135	199.084	198.671
.31558E+10	201.759	204.495	206.844	202.977	196.543	196.167
.63115E+10	186.716	188.358	189.799	187.538	183.790	183.573
.94673E+10	178.910	180.201	181.346	179.596	176.693	176.527
.12623E+11	174.627	175.714	176.684	175.223	172.800	172.662
.15779E+11	171.789	172.740	173.590	172.322	170.218	170.098
.18935E+11	168.923	169.764	170.519	169.404	167.553	167.448
.22090E+11	165.964	166.722	167.406	166.407	164.748	164.654
.25246E+11	162.915	163.603	164.225	163.325	161.831	161.747
.28402E+11	160.084	160.715	161.288	160.468	159.106	159.029
.31558E+11	157.565	158.149	158.680	157.926	156.673	156.603

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:04:57 JUN 11, 1995 CP= 51549.900
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3689 TEMP g08o045	4332 TEMP i08i045	4272 TEMP i08o045	4521 TEMP o08o045	3390 TEMP c11i045	2716 TEMP c12i045
.10000E-05	105.459	28.2673	27.4448	26.1379	129.931	130.101
.20000E-05	140.441	71.6334	70.6582	69.2227	163.217	163.430
31.558	140.441	71.6333	70.6582	69.2227	163.216	163.430
.31558E+07	164.686	102.173	101.115	99.5989	186.074	186.846
.63116E+07	170.151	108.979	107.911	106.379	191.265	192.048
.94673E+07	173.546	113.363	112.291	110.752	194.468	195.250
.12623E+08	176.078	116.727	115.654	114.109	196.838	197.620
.15779E+08	178.097	119.455	118.382	116.837	198.689	199.468
.18935E+08	179.797	121.784	120.711	119.164	200.253	201.031
.22090E+08	181.243	123.801	122.730	121.183	201.565	202.340
.25246E+08	182.471	125.546	124.477	122.933	202.666	203.443
.28402E+08	183.570	127.123	126.057	124.514	203.649	204.424
.31558E+08	184.572	128.583	127.520	125.979	204.538	205.311
.63115E+08	191.496	138.953	137.917	136.403	210.567	211.318
.94673E+08	195.705	145.731	144.723	143.239	214.062	214.790
.12623E+09	198.966	151.074	150.090	148.635	216.725	217.435
.15779E+09	201.806	155.607	154.643	153.211	219.073	219.769
.18935E+09	203.848	159.410	158.472	157.072	220.573	221.256
.22090E+09	205.599	162.530	161.611	160.236	221.901	222.571
.25246E+09	207.176	165.373	164.473	163.123	223.082	223.740
.28402E+09	207.877	167.145	166.263	164.938	223.435	224.078
.31558E+09	208.565	168.694	167.827	166.522	223.844	224.475
.63115E+09	212.079	179.982	179.263	178.168	224.698	225.226
.94673E+09	213.893	187.329	186.721	185.791	224.522	224.974
.12623E+10	212.200	189.535	189.016	188.219	221.353	221.744
.15779E+10	209.478	189.908	189.462	188.778	217.420	217.764
.18935E+10	206.649	189.489	189.100	188.504	213.638	213.945
.22090E+10	203.764	188.532	188.190	187.666	209.989	210.268
.25246E+10	200.549	186.867	186.564	186.098	206.145	206.398
.28402E+10	197.877	185.429	185.156	184.736	202.969	203.203
.31558E+10	195.445	184.086	183.839	183.459	200.091	200.309
.63115E+10	183.160	176.517	176.379	176.168	185.871	186.006
.94673E+10	176.210	171.035	170.931	170.771	178.313	178.420

.12623E+11	172.398	168.062	167.975	167.844	174.155	174.246
.15779E+11	169.869	166.095	166.021	165.908	171.397	171.476
.18935E+11	167.248	163.919	163.854	163.756	168.592	168.662
.22090E+11	164.475	161.480	161.423	161.335	165.682	165.745
.25246E+11	161.586	158.879	158.828	158.750	162.675	162.731
.28402E+11	158.883	156.406	156.359	156.289	159.877	159.928
.31558E+11	156.469	154.183	154.140	154.077	157.384	157.432

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 51550.070 TIME= 11:04:58
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 88 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 30 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 369 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 6 IS AT NODE 3936 ITEM= TEMP COMP= NAME= ts1o090

VARIABLE 7 IS AT NODE 412 ITEM= TEMP COMP= NAME= t02i090

VARIABLE 8 IS AT NODE 129 ITEM= TEMP COMP= NAME= s02i090

VARIABLE 9 IS AT NODE 209 ITEM= TEMP COMP= NAME= h02i090

VARIABLE 10 IS AT NODE 261 ITEM= TEMP COMP= NAME= c02i090

VARIABLE 11 IS AT NODE 313 ITEM= TEMP COMP= NAME= h02o090

VARIABLE 12 IS AT NODE 157 ITEM= TEMP COMP= NAME= s02o090

VARIABLE 13 IS AT NODE 469 ITEM= TEMP COMP= NAME= t02i090

VARIABLE 14 IS AT NODE 1236 ITEM= TEMP COMP= NAME= s04i090

VARIABLE 15 IS AT NODE 1316 ITEM= TEMP COMP= NAME= h04i090

VARIABLE 16 IS AT NODE 1368 ITEM= TEMP COMP= NAME= c04i090

VARIABLE 17 IS AT NODE 1407 ITEM= TEMP COMP= NAME= h04o090

VARIABLE 18 IS AT NODE 1264 ITEM= TEMP COMP= NAME= s04o090

VARIABLE 19 IS AT NODE 1518 ITEM= TEMP COMP= NAME= t04o090

VARIABLE 20 IS AT NODE 4057 ITEM= TEMP COMP= NAME= i04i090

VARIABLE 21 IS AT NODE 3993 ITEM= TEMP COMP= NAME= i04o090

VARIABLE 22 IS AT NODE 4484 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES							
VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i090	158.9	.3156E+11	250.7	.2525E+09
3	NSOL	88 TEMP	h01o090	155.5	.1000E-05	245.7	.2525E+09
4	NSOL	30 TEMP	.01o090	134.3	.1000E-05	234.0	.3156E+09
5	NSOL	369 TEMP	t01o090	134.1	.1000E-05	233.9	.3156E+09
6	NSOL	3936 TEMP	ts1o090	134.1	.1000E-05	233.9	.3156E+09
7	NSOL	412 TEMP	t02i090	134.1	.1000E-05	233.9	.3156E+09
8	NSOL	129 TEMP	s02i090	134.3	.1000E-05	234.0	.3156E+09

9 NSOL	209 TEMP	h02i090	154.1	.1000E-05	244.6	.3156E+09
10 NSOL	261 TEMP	c02i090	158.8	.3156E+11	248.5	.2525E+09
11 NSOL	313 TEMP	h02o090	153.3	.1000E-05	243.3	.3156E+09
12 NSOL	157 TEMP	s02o090	135.1	.1000E-05	233.1	.3156E+09
13 NSOL	469 TEMP	t02i090	135.1	.1000E-05	233.0	.3156E+09
14 NSOL	1236 TEMP	s04i090	135.1	.1000E-05	233.0	.3156E+09
15 NSOL	1316 TEMP	h04i090	142.8	.1000E-05	235.5	.3156E+09
16 NSOL	1368 TEMP	c04i090	139.9	.1000E-05	231.7	.3156E+09
17 NSOL	1407 TEMP	h04o090	127.5	.1000E-05	223.8	.6312E+09
18 NSOL	1264 TEMP	s04o090	87.37	.1000E-05	205.5	.9467E+09
19 NSOL	1518 TEMP	t04o090	87.19	.1000E-05	205.3	.9467E+09
20 NSOL	4057 TEMP	i04i090	30.11	.1000E-05	190.0	.1578E+10
21 NSOL	3993 TEMP	i04o090	29.18	.1000E-05	189.6	.1578E+10
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	188.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:01 JUN 11, 1995 CP= 51553.190
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i090	88 TEMP h01o090	30 TEMP s01o090	369 TEMP t01o090	3936 TEMP ts1o090	412 TEMP t02i090
.10000E-05	163.925	155.517	134.264	134.130	134.125	134.129
.20000E-05	197.493	189.964	171.113	170.984	170.979	170.983
31.558	197.492	189.964	171.113	170.984	170.979	170.983
.31558E+07	220.060	213.147	195.851	195.726	195.721	195.726
.63116E+07	225.209	218.443	201.529	201.406	201.401	201.405
.94673E+07	228.301	221.626	204.958	204.836	204.831	204.835
.12623E+08	230.548	223.945	207.475	207.354	207.349	207.353
.15779E+08	232.275	225.742	209.457	209.337	209.332	209.336
.18935E+08	233.710	227.235	211.101	210.982	210.977	210.981
.22090E+08	234.899	228.478	212.485	212.366	212.361	212.366
.25246E+08	235.878	229.505	213.639	213.521	213.516	213.520
.28402E+08	236.737	230.408	214.657	214.540	214.535	214.540
.31558E+08	237.505	231.219	215.578	215.462	215.457	215.461
.63115E+08	242.494	236.527	221.716	221.604	221.600	221.604
.94673E+08	245.078	239.351	225.158	225.051	225.046	225.050
.12623E+09	246.950	241.418	227.730	227.626	227.622	227.626
.15779E+09	248.643	243.273	230.000	229.898	229.894	229.898
.18935E+09	249.361	244.161	231.318	231.220	231.215	231.219
.22090E+09	250.078	245.010	232.505	232.409	232.405	232.409
.25246E+09	250.677	245.734	233.544	233.450	233.446	233.450
.28402E+09	250.485	245.647	233.723	233.631	233.627	233.631
.31558E+09	250.458	245.706	233.997	233.908	233.904	233.907
.63115E+09	246.951	242.996	233.292	233.218	233.215	233.218
.94673E+09	243.429	240.073	231.861	231.799	231.796	231.798
.12623E+10	237.658	234.740	227.615	227.561	227.559	227.561
.15779E+10	231.560	229.002	222.768	222.721	222.719	222.721
.18935E+10	226.059	223.789	218.262	218.221	218.219	218.220
.22090E+10	221.021	218.980	214.017	213.981	213.979	213.980
.25246E+10	216.031	214.182	209.688	209.656	209.654	209.655
.28402E+10	211.947	210.252	206.137	206.108	206.106	206.108
.31558E+10	208.269	206.712	202.934	202.908	202.906	202.907
.63115E+10	190.592	189.654	187.389	187.373	187.373	187.373
.94673E+10	181.942	181.205	179.427	179.415	179.415	179.415
.12623E+11	177.173	176.553	175.056	175.046	175.045	175.046
.15779E+11	174.010	173.468	172.161	172.153	172.152	172.152
.18935E+11	170.884	170.404	169.248	169.241	169.240	169.241
.22090E+11	167.729	167.297	166.255	166.249	166.248	166.249
.25246E+11	164.512	164.121	163.176	163.170	163.170	163.170
.28402E+11	161.547	161.187	160.322	160.316	160.316	160.316
.31558E+11	158.915	158.583	157.783	157.778	157.778	157.778

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:01 JUN 11, 1995 CP= 51553.200
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	129 TEMP s02i090	209 TEMP h02i090	261 TEMP c02i090	313 TEMP h02o090	157 TEMP s02o090	469 TEMP t02i090
.10000E-05	134.256	154.070	161.453	153.295	135.127	135.065
.20000E-05	171.104	188.507	194.928	187.447	171.239	171.178
31.558	171.104	188.507	194.927	187.447	171.240	171.178
.31558E+07	195.841	211.677	217.422	210.394	195.413	195.353
.63116E+07	201.519	216.974	222.562	215.646	200.969	200.909
.94673E+07	204.948	220.162	225.657	218.814	204.339	204.279
.12623E+08	207.466	222.486	227.906	221.124	206.808	206.748
.15779E+08	209.448	224.288	229.637	222.914	208.754	208.695
.18935E+08	211.091	225.786	231.078	224.405	210.367	210.308
.22090E+08	212.475	227.033	232.273	225.647	211.727	211.668
.25246E+08	213.629	228.065	233.258	226.674	212.861	212.803
.28402E+08	214.648	228.974	234.125	227.581	213.864	213.805
.31558E+08	215.569	229.789	234.900	228.394	214.770	214.712
.63115E+08	221.707	235.143	239.958	233.748	220.823	220.767
.94673E+08	225.149	238.006	242.607	236.626	224.227	224.173
.12623E+09	227.722	240.109	244.537	238.746	226.777	226.725
.15779E+09	229.991	241.993	246.278	240.644	229.029	228.978
.18935E+09	231.309	242.915	247.057	241.593	230.349	230.299
.22090E+09	232.497	243.791	247.820	242.490	231.537	231.489
.25246E+09	233.536	244.540	248.465	243.259	232.578	232.531
.28402E+09	233.715	244.477	248.316	243.220	232.772	232.726
.31558E+09	233.990	244.556	248.325	243.317	233.058	233.012
.63115E+09	233.286	242.040	245.172	241.007	232.505	232.468
.94673E+09	231.856	239.263	241.922	238.390	231.199	231.168
.12623E+10	227.610	234.044	236.364	233.305	227.074	227.046
.15779E+10	222.764	228.401	230.443	227.773	222.328	222.305
.18935E+10	218.258	223.262	225.082	222.721	217.900	217.879
.22090E+10	214.014	218.514	220.157	218.044	213.721	213.703
.25246E+10	209.686	213.765	215.261	213.353	209.444	209.427
.28402E+10	206.135	209.874	211.249	209.507	205.930	205.915
.31558E+10	202.932	206.368	207.635	206.039	202.758	202.744
.63115E+10	187.388	189.457	190.230	189.282	187.321	187.313
.94673E+10	179.427	181.054	181.666	180.925	179.389	179.383
.12623E+11	175.055	176.427	176.944	176.323	175.030	175.025
.15779E+11	172.161	173.359	173.812	173.270	172.143	172.139
.18935E+11	169.248	170.309	170.711	170.233	169.236	169.232
.22090E+11	166.255	167.212	167.576	167.145	166.247	166.244
.25246E+11	163.176	164.045	164.375	163.986	163.172	163.169
.28402E+11	160.322	161.118	161.422	161.066	160.320	160.318
.31558E+11	157.782	158.520	158.801	158.473	157.783	157.781

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:01 JUN 11, 1995 CP= 51553.210
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1236 TEMP s04i090	1316 TEMP h04i090	1368 TEMP c04i090	1407 TEMP h04o090	1264 TEMP s04o090	1518 TEMP t04o090
.10000E-05	135.075	142.755	139.869	127.515	87.3694	87.1886

.20000E-05	171.184	177.072	173.378	161.233	122.977	122.785
31.558	171.184	177.072	173.378	161.233	122.977	122.785
.31558E+07	195.356	200.107	195.915	183.997	147.250	147.054
.63116E+07	200.911	205.404	201.115	189.262	152.893	152.696
.94673E+07	204.281	208.630	204.304	192.512	156.451	156.254
.12623E+08	206.750	210.997	206.650	194.914	159.127	158.929
.15779E+08	208.697	212.836	208.472	196.804	161.276	161.079
.18935E+08	210.310	214.377	210.004	198.393	163.093	162.896
.22090E+08	211.669	215.665	211.285	199.733	164.651	164.454
.25246E+08	212.804	216.735	212.353	200.857	165.978	165.782
.28402E+08	213.806	217.685	213.303	201.861	167.173	166.978
.31558E+08	214.713	218.540	214.160	202.770	168.270	168.075
.63115E+08	220.767	224.242	219.905	208.943	175.948	175.758
.94673E+08	224.173	227.412	223.143	212.536	180.764	180.579
.12623E+09	226.724	229.782	225.581	215.276	184.529	184.349
.15779E+09	228.977	231.886	227.742	217.686	187.784	187.608
.18935E+09	230.298	233.075	229.016	219.243	190.277	190.105
.22090E+09	231.488	234.160	230.168	220.618	192.382	192.215
.25246E+09	232.530	235.108	231.181	221.841	194.291	194.127
.28402E+09	232.725	235.235	231.379	222.231	195.293	195.133
.31558E+09	233.011	235.465	231.664	222.670	196.224	196.066
.63115E+09	232.467	234.462	231.258	223.767	201.992	201.860
.94673E+09	231.167	232.841	230.108	223.760	205.458	205.347
.12623E+10	227.046	228.522	226.177	220.702	204.978	204.883
.15779E+10	222.304	223.623	221.605	216.851	203.229	203.148
.18935E+10	217.879	219.073	217.314	213.132	201.164	201.092
.22090E+10	213.703	214.801	213.253	209.531	198.889	198.826
.25246E+10	209.427	210.445	209.070	205.728	196.174	196.118
.28402E+10	205.915	206.864	205.625	202.584	193.899	193.848
.31558E+10	202.744	203.629	202.508	199.733	191.814	191.768
.63115E+10	187.314	187.883	187.259	185.647	181.044	181.018
.94673E+10	179.384	179.847	179.378	178.132	174.570	174.550
.12623E+11	175.026	175.425	175.040	174.001	171.026	171.010
.15779E+11	172.139	172.492	172.162	171.261	168.677	168.663
.18935E+11	169.232	169.550	169.263	168.471	166.199	166.186
.22090E+11	166.244	166.534	166.282	165.572	163.534	163.523
.25246E+11	163.169	163.437	163.213	162.575	160.739	160.729
.28402E+11	160.318	160.567	160.365	159.784	158.110	158.101
.31558E+11	157.781	158.015	157.832	157.298	155.757	155.749

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:01 JUN 11, 1995 CP= 51553.220
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4057 TEMP	3993 TEMP	4484 TEMP
	i04i090	i04o090	o04o090
.10000E-05	30.1089	29.1750	26.1379
.20000E-05	73.3261	72.2422	69.1920
31.558	73.3261	72.2422	69.1920
.31558E+07	102.545	101.372	98.2533
.63116E+07	109.332	108.148	105.025
.94673E+07	113.715	112.526	109.408
.12623E+08	117.074	115.884	112.771
.15779E+08	119.802	118.612	115.509
.18935E+08	122.128	120.938	117.843
.22090E+08	124.143	122.956	119.870
.25246E+08	125.879	124.694	121.619
.28402E+08	127.454	126.272	123.206
.31558E+08	128.910	127.731	124.676
.63115E+08	139.270	138.121	135.157
.94673E+08	146.047	144.927	142.047
.12623E+09	151.385	150.291	147.484
.15779E+09	155.913	154.841	152.093

.18935E+09	159.702	158.657	155.982
.22090E+09	162.815	161.792	159.173
.25246E+09	165.650	164.648	162.082
.28402E+09	167.422	166.440	163.928
.31558E+09	168.972	168.007	165.536
.63115E+09	180.222	179.419	177.368
.94673E+09	187.531	186.851	185.120
.12623E+10	189.709	189.128	187.646
.15779E+10	190.050	189.551	188.275
.18935E+10	189.604	189.169	188.055
.22090E+10	188.622	188.239	187.256
.25246E+10	186.942	186.602	185.727
.28402E+10	185.489	185.183	184.391
.31558E+10	184.132	183.854	183.137
.63115E+10	176.526	176.371	175.965
.94673E+10	171.036	170.918	170.609
.12623E+11	168.058	167.961	167.705
.15779E+11	166.091	166.007	165.786
.18935E+11	163.914	163.841	163.648
.22090E+11	161.476	161.411	161.239
.25246E+11	158.875	158.817	158.664
.28402E+11	156.401	156.349	156.210
.31558E+11	154.178	154.130	154.003

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 51553.390 TIME= 11:05:01
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 91 ITEM= TEMP COMP= NAME= h01o135

VARIABLE 4 IS AT NODE 16 ITEM= TEMP COMP= NAME= s01o135

VARIABLE 5 IS AT NODE 362 ITEM= TEMP COMP= NAME= t01o135

VARIABLE 6 IS AT NODE 3770 ITEM= TEMP COMP= NAME= ts1o135

VARIABLE 7 IS AT NODE 1790 ITEM= TEMP COMP= NAME= t07i135

VARIABLE 8 IS AT NODE 1565 ITEM= TEMP COMP= NAME= s07i135

VARIABLE 9 IS AT NODE 1649 ITEM= TEMP COMP= NAME= h07i135

VARIABLE 10 IS AT NODE 1705 ITEM= TEMP COMP= NAME= c07i135

VARIABLE 11 IS AT NODE 1760 ITEM= TEMP COMP= NAME= h07o135

VARIABLE 12 IS AT NODE 1580 ITEM= TEMP COMP= NAME= s07o135

VARIABLE 13 IS AT NODE 1848 ITEM= TEMP COMP= NAME= g07i135

VARIABLE 14 IS AT NODE 3603 ITEM= TEMP COMP= NAME= g07o135

VARIABLE 15 IS AT NODE 4085 ITEM= TEMP COMP= NAME= i07i135

VARIABLE 16 IS AT NODE 4025 ITEM= TEMP COMP= NAME= i07o135

VARIABLE 17 IS AT NODE 4713 ITEM= TEMP COMP= NAME= o07o135
 Add centers of assemblies 9 and 10

VARIABLE 18 IS AT NODE 3053 ITEM= TEMP COMP= NAME= c09i135

VARIABLE 19 IS AT NODE 2042 ITEM= TEMP COMP= NAME= c10i135

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i135	158.9	.3156E+11	250.7	.2525E+09
3 NSOL	91 TEMP	h01o135	152.0	.1000E-05	243.7	.3156E+09
4 NSOL	16 TEMP	s01o135	130.6	.1000E-05	231.3	.3156E+09
5 NSOL	362 TEMP	t01o135	129.5	.1000E-05	230.5	.3156E+09
6 NSOL	3770 TEMP	ts1o135	129.4	.1000E-05	230.5	.3156E+09
7 NSOL	1790 TEMP	t07i135	129.4	.1000E-05	230.4	.3156E+09
8 NSOL	1565 TEMP	s07i135	128.2	.1000E-05	229.7	.6312E+09
9 NSOL	1649 TEMP	h07i135	144.3	.1000E-05	238.1	.3156E+09
10 NSOL	1705 TEMP	c07i135	158.6	.3156E+11	245.1	.2525E+09
11 NSOL	1760 TEMP	h07o135	146.0	.1000E-05	235.1	.3156E+09
12 NSOL	1580 TEMP	s07o135	110.6	.1000E-05	215.8	.9467E+09
13 NSOL	1848 TEMP	g07i135	108.8	.1000E-05	214.9	.9467E+09
14 NSOL	3603 TEMP	g07o135	105.5	.1000E-05	213.2	.9467E+09
15 NSOL	4085 TEMP	i07i135	28.27	.1000E-05	189.2	.1578E+10
16 NSOL	4025 TEMP	i07o135	27.44	.1000E-05	188.8	.1578E+10
17 NSOL	4713 TEMP	o07o135	26.14	.1000E-05	188.1	.1578E+10
18 NSOL	3053 TEMP	c09i135	129.9	.1000E-05	224.2	.6312E+09
19 NSOL	2042 TEMP	c10i135	130.1	.1000E-05	224.2	.6312E+09
20 NSOL	4057 TEMP	i04i090	30.11	.1000E-05	190.0	.1578E+10
21 NSOL	3993 TEMP	i04o090	29.18	.1000E-05	189.6	.1578E+10
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	188.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:04 JUN 11, 1995 CP= 51556.050
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i135	91 TEMP h01o135	16 TEMP s01o135	362 TEMP t01o135	3770 TEMP ts1o135	1790 TEMP t07i135
.10000E-05	163.925	152.040	130.562	129.468	129.441	129.419
.20000E-05	197.493	186.829	167.510	166.446	166.420	166.398
31.558	197.492	186.829	167.510	166.446	166.420	166.398
.31558E+07	220.060	210.191	192.180	191.107	191.080	191.059
.63116E+07	225.209	215.543	197.880	196.813	196.786	196.764
.94673E+07	228.301	218.762	201.333	200.273	200.247	200.225
.12623E+08	230.548	221.112	203.873	202.821	202.794	202.773
.15779E+08	232.275	222.936	205.875	204.829	204.803	204.782
.18935E+08	233.710	224.453	207.540	206.500	206.474	206.452
.22090E+08	234.899	225.718	208.943	207.908	207.882	207.861
.25246E+08	235.878	226.764	210.112	209.083	209.057	209.036
.28402E+08	236.737	227.686	211.149	210.125	210.099	210.078
.31558E+08	237.505	228.514	212.087	211.067	211.042	211.021
.63115E+08	242.494	233.955	218.362	217.384	217.359	217.339
.94673E+08	245.078	236.880	221.919	220.975	220.951	220.931
.12623E+09	246.950	239.032	224.589	223.673	223.650	223.631
.15779E+09	248.643	240.955	226.939	226.046	226.023	226.005
.18935E+09	249.361	241.915	228.347	227.481	227.459	227.442
.22090E+09	250.078	242.821	229.606	228.760	228.739	228.721
.25246E+09	250.677	243.598	230.711	229.886	229.865	229.848
.28402E+09	250.485	243.557	230.953	230.145	230.125	230.108
.31558E+09	250.458	243.653	231.277	230.484	230.464	230.448
.63115E+09	246.951	241.291	231.048	230.394	230.377	230.363
.94673E+09	243.429	238.628	229.972	229.422	229.408	229.396
.12623E+10	237.658	233.486	225.995	225.523	225.511	225.501
.15779E+10	231.560	227.906	221.367	220.959	220.949	220.940
.18935E+10	226.059	222.817	217.033	216.675	216.665	216.658
.22090E+10	221.021	218.108	212.927	212.609	212.601	212.594
.25246E+10	216.031	213.393	208.712	208.427	208.420	208.414
.28402E+10	211.947	209.530	205.251	204.992	204.986	204.980

.31558E+10	208.269	206.049	202.127	201.892	201.886	201.881
.63115E+10	190.592	189.257	186.923	186.786	186.783	186.780
.94673E+10	181.942	180.894	179.067	178.962	178.960	178.957
.12623E+11	177.173	176.291	174.756	174.669	174.666	174.665
.15779E+11	174.010	173.239	171.901	171.825	171.823	171.821
.18935E+11	170.884	170.202	169.020	168.954	168.952	168.951
.22090E+11	167.729	167.115	166.051	165.991	165.990	165.989
.25246E+11	164.512	163.956	162.994	162.940	162.939	162.938
.28402E+11	161.547	161.037	160.155	160.106	160.105	160.104
.31558E+11	158.915	158.444	157.630	157.585	157.584	157.583

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:04 JUN 11, 1995 CP= 51556.070
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1565 TEMP s07i135	1649 TEMP h07i135	1705 TEMP c07i135	1760 TEMP h07o135	1580 TEMP s07o135	1848 TEMP g07i135
.10000E-05	128.152	144.291	159.434	146.008	110.571	108.821
.20000E-05	165.200	179.361	192.243	179.142	145.433	143.717
31.558	165.200	179.361	192.242	179.141	145.433	143.717
.31558E+07	189.876	202.699	214.000	201.063	168.413	166.710
.63116E+07	195.595	208.112	219.045	206.191	173.845	172.146
.94673E+07	199.067	211.385	222.100	209.313	177.222	175.531
.12623E+08	201.624	213.778	224.322	211.595	179.733	178.052
.15779E+08	203.643	215.647	226.031	213.372	181.734	180.062
.18935E+08	205.321	217.203	227.459	214.858	183.415	181.751
.22090E+08	206.737	218.506	228.644	216.099	184.845	183.189
.25246E+08	207.919	219.585	229.620	217.128	186.049	184.401
.28402E+08	208.968	220.542	230.481	218.042	187.128	185.488
.31558E+08	209.917	221.402	231.252	218.864	188.112	186.479
.63115E+08	216.286	227.116	236.317	224.354	194.895	193.324
.94673E+08	219.918	230.267	239.007	227.402	198.991	197.472
.12623E+09	222.652	232.610	240.981	229.685	202.154	200.680
.15779E+09	225.053	234.692	242.761	231.721	204.913	203.477
.18935E+09	226.519	235.830	243.601	232.857	206.855	205.461
.22090E+09	227.823	236.876	244.414	233.901	208.529	207.168
.25246E+09	228.971	237.785	245.107	234.814	210.036	208.706
.28402E+09	229.251	237.866	245.016	234.927	210.680	209.379
.31558E+09	229.606	238.060	245.070	235.143	211.323	210.045
.63115E+09	229.670	236.640	242.396	234.077	214.346	213.289
.94673E+09	228.813	234.689	239.534	232.450	215.791	214.901
.12623E+10	224.999	230.090	234.304	228.174	213.822	213.058
.15779E+10	220.505	224.956	228.660	223.323	210.866	210.206
.18935E+10	216.275	220.219	223.520	218.815	207.853	207.274
.22090E+10	212.253	215.794	218.774	214.577	204.815	204.302
.25246E+10	208.107	211.314	214.028	210.253	201.481	201.022
.28402E+10	204.701	207.637	210.134	206.696	198.712	198.295
.31558E+10	201.626	204.321	206.622	203.481	196.193	195.814
.63115E+10	186.631	188.246	189.655	187.817	183.565	183.347
.94673E+10	178.842	180.111	181.230	179.807	176.513	176.345
.12623E+11	174.568	175.637	176.584	175.396	172.645	172.505
.15779E+11	171.737	172.671	173.502	172.470	170.081	169.960
.18935E+11	168.877	169.703	170.441	169.533	167.432	167.326
.22090E+11	165.922	166.668	167.336	166.523	164.639	164.544
.25246E+11	162.878	163.554	164.162	163.430	161.733	161.648
.28402E+11	160.050	160.670	161.230	160.563	159.016	158.939
.31558E+11	157.533	158.107	158.627	158.014	156.590	156.519

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:04 JUN 11, 1995 CP= 51556.080
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3603 TEMP g07o135	4085 TEMP i07i135	4025 TEMP i07o135	4713 TEMP o07o135	3053 TEMP c09i135	2042 TEMP c10i135
.10000E-05	105.459	28.2673	27.4448	26.1379	129.931	130.101
.20000E-05	140.404	71.5756	70.6005	69.1651	163.195	163.385
31.558	140.404	71.5756	70.6005	69.1651	163.195	163.384
.31558E+07	163.441	100.267	99.2078	97.6902	185.346	185.317
.63116E+07	168.891	107.067	105.997	104.463	190.525	190.497
.94673E+07	172.292	111.469	110.395	108.854	193.733	193.709
.12623E+08	174.829	114.847	113.771	112.224	196.105	196.084
.15779E+08	176.855	117.591	116.515	114.968	197.959	197.941
.18935E+08	178.559	119.932	118.857	117.307	199.526	199.509
.22090E+08	180.012	121.964	120.890	119.341	200.842	200.827
.25246E+08	181.237	123.710	122.638	121.092	201.942	201.927
.28402E+08	182.338	125.294	124.224	122.679	202.925	202.910
.31558E+08	183.342	126.760	125.694	124.150	203.815	203.800
.63115E+08	190.302	137.209	136.170	134.653	209.865	209.853
.94673E+08	194.547	144.060	143.048	141.561	213.381	213.370
.12623E+09	197.839	149.462	148.474	147.017	216.061	216.053
.15779E+09	200.705	154.043	153.075	151.640	218.424	218.418
.18935E+09	202.770	157.889	156.947	155.544	219.937	219.932
.22090E+09	204.540	161.045	160.122	158.744	221.276	221.271
.25246E+09	206.138	163.925	163.021	161.667	222.468	222.465
.28402E+09	206.866	165.740	164.855	163.527	222.837	222.836
.31558E+09	207.577	167.324	166.454	165.145	223.259	223.260
.63115E+09	211.250	178.864	178.143	177.044	224.204	224.203
.94673E+09	213.184	186.392	185.782	184.848	224.098	224.097
.12623E+10	211.586	188.734	188.213	187.413	220.984	220.983
.15779E+10	208.933	189.205	188.757	188.070	217.092	217.089
.18935E+10	206.160	188.861	188.471	187.872	213.342	213.336
.22090E+10	203.314	187.958	187.615	187.088	209.717	209.708
.25246E+10	200.138	186.347	186.042	185.574	205.896	205.886
.28402E+10	197.494	184.946	184.671	184.249	202.737	202.726
.31558E+10	195.085	183.633	183.384	183.003	199.871	199.859
.63115E+10	182.929	176.231	176.092	175.879	185.730	185.717
.94673E+10	176.024	170.806	170.700	170.540	178.199	178.187
.12623E+11	172.238	167.865	167.778	167.646	174.057	174.046
.15779E+11	169.729	165.922	165.847	165.733	171.310	171.299
.18935E+11	167.123	163.765	163.699	163.600	168.515	168.505
.22090E+11	164.363	161.342	161.284	161.196	165.613	165.604
.25246E+11	161.486	158.755	158.703	158.625	162.613	162.604
.28402E+11	158.791	156.292	156.245	156.174	159.820	159.812
.31558E+11	156.383	154.078	154.035	153.970	157.331	157.324

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i180

*** WARNING *** CP= 51556.240 TIME= 11:05:04
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 13 ITEM= TEMP COMP= NAME= h01o180

VARIABLE 4 IS AT NODE 2 ITEM= TEMP COMP= NAME= s01o180

VARIABLE 5 IS AT NODE 390 ITEM= TEMP COMP= NAME= t01o180

VARIABLE 6 IS AT NODE 3759 ITEM= TEMP COMP= NAME= ts5i180

VARIABLE 7 IS AT NODE 636 ITEM= TEMP COMP= NAME= t05i180

VARIABLE 8 IS AT NODE 516 ITEM= TEMP COMP= NAME= s05i180
 VARIABLE 9 IS AT NODE 520 ITEM= TEMP COMP= NAME= h05i180
 VARIABLE 10 IS AT NODE 524 ITEM= TEMP COMP= NAME= c05i180
 VARIABLE 11 IS AT NODE 528 ITEM= TEMP COMP= NAME= h05o180
 VARIABLE 12 IS AT NODE 517 ITEM= TEMP COMP= NAME= s05o180
 VARIABLE 13 IS AT NODE 680 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 14 IS AT NODE 872 ITEM= TEMP COMP= NAME= s03i180
 VARIABLE 15 IS AT NODE 876 ITEM= TEMP COMP= NAME= h03i180
 VARIABLE 16 IS AT NODE 880 ITEM= TEMP COMP= NAME= c03i180
 VARIABLE 17 IS AT NODE 883 ITEM= TEMP COMP= NAME= h03o180
 VARIABLE 18 IS AT NODE 873 ITEM= TEMP COMP= NAME= s03o180
 VARIABLE 19 IS AT NODE 1036 ITEM= TEMP COMP= NAME= t03o180
 VARIABLE 20 IS AT NODE 4105 ITEM= TEMP COMP= NAME= i03i180
 VARIABLE 21 IS AT NODE 3992 ITEM= TEMP COMP= NAME= i03o180
 VARIABLE 22 IS AT NODE 4679 ITEM= TEMP COMP= NAME= o03o180

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i180	158.9	.3156E+11	250.7	.2525E+09
3 NSOL	13 TEMP	h01o180	154.8	.1000E-05	245.1	.2525E+09
4 NSOL	2 TEMP	s01o180	132.0	.1000E-05	232.3	.3156E+09
5 NSOL	390 TEMP	t01o180	131.9	.1000E-05	232.2	.3156E+09
6 NSOL	3759 TEMP	ts5i180	131.9	.1000E-05	232.2	.3156E+09
7 NSOL	636 TEMP	t05i180	131.9	.1000E-05	232.2	.3156E+09
8 NSOL	516 TEMP	s05i180	132.0	.1000E-05	232.3	.3156E+09
9 NSOL	520 TEMP	h05i180	153.0	.1000E-05	243.6	.3156E+09
10 NSOL	524 TEMP	c05i180	158.8	.3156E+11	248.0	.2525E+09
11 NSOL	528 TEMP	h05o180	153.3	.1000E-05	243.1	.3156E+09
12 NSOL	517 TEMP	s05o180	135.4	.1000E-05	233.0	.3156E+09
13 NSOL	680 TEMP	t05i180	135.3	.1000E-05	233.0	.3156E+09
14 NSOL	872 TEMP	s03i180	135.3	.1000E-05	233.0	.3156E+09
15 NSOL	876 TEMP	h03i180	143.3	.1000E-05	235.7	.3156E+09
16 NSOL	880 TEMP	c03i180	141.1	.1000E-05	232.4	.3156E+09
17 NSOL	883 TEMP	h03o180	129.7	.1000E-05	225.1	.6312E+09
18 NSOL	873 TEMP	s03o180	93.09	.1000E-05	208.4	.9467E+09
19 NSOL	1036 TEMP	t03o180	92.95	.1000E-05	208.3	.9467E+09
20 NSOL	4105 TEMP	i03i180	29.66	.1000E-05	189.4	.1578E+10
21 NSOL	3992 TEMP	i03o180	28.98	.1000E-05	189.0	.1578E+10
22 NSOL	4679 TEMP	o03o180	26.14	.1000E-05	187.9	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:07 JUN 11, 1995 CP= 51559.360
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME 9 TEMP 13 TEMP 2 TEMP 390 TEMP 3759 TEMP 636 TEMP

	c01i180	h01o180	s01o180	t01o180	ts5i180	t05i180
.10000E-05	163.925	154.798	131.986	131.892	131.892	131.899
.20000E-05	197.493	189.262	168.905	168.814	168.813	168.821
31.558	197.492	189.261	168.905	168.814	168.814	168.821
.31558E+07	220.060	212.367	193.515	193.425	193.425	193.433
.63116E+07	225.209	217.668	199.207	199.118	199.118	199.126
.94673E+07	228.301	220.856	202.653	202.565	202.565	202.572
.12623E+08	230.548	223.180	205.186	205.099	205.099	205.106
.15779E+08	232.275	224.981	207.182	207.095	207.095	207.102
.18935E+08	233.710	226.477	208.839	208.753	208.753	208.760
.22090E+08	234.899	227.724	210.236	210.150	210.150	210.157
.25246E+08	235.878	228.754	211.400	211.314	211.314	211.322
.28402E+08	236.737	229.661	212.430	212.345	212.345	212.352
.31558E+08	237.505	230.474	213.362	213.277	213.277	213.284
.63115E+08	242.494	235.811	219.589	219.508	219.508	219.515
.94673E+08	245.078	238.658	223.105	223.027	223.027	223.034
.12623E+09	246.950	240.746	225.740	225.664	225.664	225.671
.15779E+09	248.643	242.617	228.061	227.987	227.987	227.994
.18935E+09	249.361	243.523	229.437	229.365	229.365	229.371
.22090E+09	250.078	244.387	230.669	230.599	230.599	230.605
.25246E+09	250.677	245.124	231.750	231.682	231.682	231.688
.28402E+09	250.485	245.050	231.969	231.902	231.903	231.908
.31558E+09	250.458	245.120	232.276	232.210	232.210	232.216
.63115E+09	246.951	242.509	231.871	231.817	231.817	231.822
.94673E+09	243.429	239.660	230.665	230.619	230.619	230.623
.12623E+10	237.658	234.385	226.588	226.549	226.549	226.552
.15779E+10	231.560	228.694	221.878	221.845	221.845	221.847
.18935E+10	226.059	223.517	217.480	217.450	217.450	217.453
.22090E+10	221.021	218.737	213.322	213.295	213.295	213.298
.25246E+10	216.031	213.963	209.065	209.041	209.041	209.043
.28402E+10	211.947	210.053	205.570	205.549	205.549	205.551
.31558E+10	208.269	206.530	202.417	202.398	202.398	202.399
.63115E+10	190.592	189.547	187.087	187.076	187.076	187.077
.94673E+10	181.942	181.122	179.194	179.185	179.185	179.186
.12623E+11	177.173	176.483	174.861	174.854	174.854	174.854
.15779E+11	174.010	173.407	171.992	171.986	171.986	171.986
.18935E+11	170.884	170.351	169.100	169.094	169.094	169.095
.22090E+11	167.729	167.249	166.122	166.117	166.117	166.118
.25246E+11	164.512	164.078	163.057	163.053	163.053	163.053
.28402E+11	161.547	161.148	160.213	160.209	160.209	160.209
.31558E+11	158.915	158.547	157.683	157.679	157.679	157.680

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:07 JUN 11, 1995 CP= 51559.370
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	516 TEMP s05i180	520 TEMP h05i180	524 TEMP c05i180	528 TEMP h05o180	517 TEMP s05o180	680 TEMP t05i180
.10000E-05	131.985	152.953	161.087	153.309	135.386	135.325
.20000E-05	168.903	187.425	194.585	187.489	171.535	171.475
31.558	168.903	187.425	194.584	187.489	171.535	171.475
.31558E+07	193.511	210.389	216.803	210.092	195.294	195.235
.63116E+07	199.203	215.695	221.945	215.345	200.852	200.793
.94673E+07	202.649	218.892	225.046	218.520	204.228	204.170
.12623E+08	205.183	221.224	227.301	220.834	206.702	206.644
.15779E+08	207.178	223.033	229.036	222.628	208.654	208.595
.18935E+08	208.836	224.538	230.481	224.122	210.269	210.212
.22090E+08	210.232	225.793	231.680	225.368	211.633	211.575
.25246E+08	211.396	226.829	232.667	226.395	212.767	212.710
.28402E+08	212.427	227.744	233.536	227.303	213.769	213.712
.31558E+08	213.358	228.564	234.313	228.118	214.676	214.619

.63115E+08	219.585	233.965	239.395	233.485	220.738	220.683
.94673E+08	223.102	236.868	242.064	236.375	224.149	224.097
.12623E+09	225.737	239.004	244.010	238.505	226.706	226.655
.15779E+09	228.058	240.916	245.765	240.411	228.963	228.913
.18935E+09	229.433	241.868	246.558	241.366	230.285	230.237
.22090E+09	230.666	242.768	247.333	242.268	231.475	231.428
.25246E+09	231.747	243.541	247.988	243.044	232.520	232.474
.28402E+09	231.966	243.500	247.852	243.012	232.719	232.673
.31558E+09	232.273	243.597	247.870	243.115	233.008	232.963
.63115E+09	231.869	241.244	244.794	240.839	232.465	232.428
.94673E+09	230.662	238.590	241.601	238.249	231.166	231.135
.12623E+10	226.586	233.464	236.087	233.183	227.045	227.018
.15779E+10	221.877	227.896	230.200	227.664	222.299	222.276
.18935E+10	217.479	222.816	224.865	222.621	217.870	217.850
.22090E+10	213.320	218.114	219.961	217.950	213.689	213.671
.25246E+10	209.064	213.405	215.082	213.267	209.412	209.396
.28402E+10	205.569	209.545	211.085	209.425	205.898	205.883
.31558E+10	202.416	206.066	207.482	205.961	202.724	202.711
.63115E+10	187.087	189.277	190.135	189.228	187.292	187.285
.94673E+10	179.194	180.913	181.590	180.881	179.364	179.358
.12623E+11	174.861	176.309	176.880	176.284	175.007	175.002
.15779E+11	171.992	173.256	173.755	173.236	172.121	172.117
.18935E+11	169.099	170.218	170.660	170.202	169.216	169.212
.22090E+11	166.122	167.131	167.530	167.117	166.229	166.226
.25246E+11	163.057	163.971	164.334	163.961	163.156	163.153
.28402E+11	160.213	161.052	161.385	161.043	160.305	160.303
.31558E+11	157.683	158.458	158.767	158.451	157.769	157.767

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:07 JUN 11, 1995 CP= 51559.390
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	872 TEMP s03i180	876 TEMP h03i180	880 TEMP c03i180	883 TEMP h03o180	873 TEMP s03o180	1036 TEMP t03o180
.10000E-05	135.336	143.331	141.098	129.745	93.0919	92.9477
.20000E-05	171.483	177.706	174.712	163.634	129.034	128.883
31.558	171.483	177.706	174.711	163.634	129.034	128.883
.31558E+07	195.239	200.303	196.778	185.890	152.712	152.557
.63116E+07	200.797	205.601	201.981	191.160	158.355	158.200
.94673E+07	204.173	208.834	205.176	194.417	161.903	161.748
.12623E+08	206.647	211.206	207.525	196.821	164.563	164.408
.15779E+08	208.598	213.049	209.350	198.711	166.697	166.542
.18935E+08	210.214	214.592	210.882	200.298	168.494	168.339
.22090E+08	211.578	215.883	212.165	201.637	170.035	169.880
.25246E+08	212.712	216.952	213.229	202.754	171.339	171.185
.28402E+08	213.715	217.901	214.176	203.749	172.510	172.357
.31558E+08	214.621	218.756	215.030	204.651	173.585	173.431
.63115E+08	220.685	224.457	220.755	210.770	181.077	180.928
.94673E+08	224.098	227.626	223.975	214.314	185.728	185.583
.12623E+09	226.656	229.995	226.396	217.011	189.352	189.211
.15779E+09	228.913	232.099	228.543	219.385	192.490	192.351
.18935E+09	230.237	233.283	229.798	220.899	194.844	194.709
.22090E+09	231.428	234.364	230.933	222.236	196.839	196.707
.25246E+09	232.474	235.310	231.933	223.426	198.648	198.519
.28402E+09	232.674	235.437	232.121	223.789	199.562	199.435
.31558E+09	232.963	235.667	232.397	224.206	200.420	200.296
.63115E+09	232.428	234.633	231.874	225.051	205.447	205.343
.94673E+09	231.135	232.988	230.634	224.852	208.359	208.272
.12623E+10	227.018	228.649	226.631	221.643	207.464	207.389
.15779E+10	222.276	223.729	221.995	217.664	205.371	205.306
.18935E+10	217.851	219.162	217.653	213.842	203.034	202.978
.22090E+10	213.671	214.874	213.548	210.154	200.537	200.487

.25246E+10	209.396	210.507	209.332	206.284	197.645	197.601
.28402E+10	205.883	206.917	205.859	203.086	195.227	195.187
.31558E+10	202.711	203.673	202.716	200.185	193.016	192.980
.63115E+10	187.285	187.898	187.369	185.897	181.721	181.700
.94673E+10	179.358	179.855	179.458	178.320	175.085	175.070
.12623E+11	175.003	175.429	175.104	174.155	171.451	171.438
.15779E+11	172.118	172.494	172.216	171.392	169.043	169.032
.18935E+11	169.212	169.550	169.309	168.585	166.518	166.509
.22090E+11	166.226	166.535	166.322	165.674	163.820	163.811
.25246E+11	163.153	163.437	163.249	162.666	160.995	160.987
.28402E+11	160.303	160.567	160.398	159.867	158.342	158.335
.31558E+11	157.767	158.014	157.862	157.373	155.970	155.963

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:07 JUN 11, 1995 CP= 51559.400
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4105 TEMP	3992 TEMP	4679 TEMP
	i03i180	i03o180	o03o180
.10000E-05	29.6636	28.9767	26.1379
.20000E-05	72.7376	71.9561	69.1381
.31558E+07	100.863	100.022	97.1270
.63116E+07	107.644	106.795	103.902
.94673E+07	112.036	111.185	108.300
.12623E+08	115.406	114.554	111.677
.15779E+08	118.145	117.293	114.427
.18935E+08	120.479	119.628	116.772
.22090E+08	122.508	121.658	118.812
.25246E+08	124.247	123.399	120.565
.28402E+08	125.823	124.978	122.152
.31558E+08	127.284	126.441	123.625
.63115E+08	137.696	136.874	134.148
.94673E+08	144.520	143.721	141.075
.12623E+09	149.904	149.123	146.549
.15779E+09	154.470	153.705	151.187
.18935E+09	158.300	157.556	155.106
.22090E+09	161.441	160.712	158.315
.25246E+09	164.312	163.598	161.252
.28402E+09	166.121	165.421	163.125
.31558E+09	167.699	167.012	164.755
.63115E+09	179.163	178.592	176.720
.94673E+09	186.637	186.154	184.576
.12623E+10	188.943	188.530	187.180
.15779E+10	189.383	189.028	187.865
.18935E+10	189.015	188.705	187.689
.22090E+10	188.090	187.818	186.920
.25246E+10	186.463	186.222	185.421
.28402E+10	185.049	184.831	184.107
.31558E+10	183.724	183.527	182.869
.63115E+10	176.278	176.167	175.794
.94673E+10	170.840	170.756	170.471
.12623E+11	167.892	167.823	167.586
.15779E+11	165.944	165.884	165.679
.18935E+11	163.784	163.732	163.553
.22090E+11	161.359	161.313	161.153
.25246E+11	158.771	158.729	158.586
.28402E+11	156.306	156.269	156.139
.31558E+11	154.090	154.056	153.938

***** ROUTINE COMPLETED ***** CP = 51559.410

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21x.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 64
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```

*-----*
|                                     |
|               ANSYS RUN COMPLETED               |
|-----|
|               REV. 5.0 A               |               HP 9000/7XX               |
| CP TIME      (sec) =    51563.570      | TIME = 11:05:11 |
| ELAPSED TIME (sec) =    52507.000      | DATE  = 06/11/95 |
|-----|
*-----*

```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ucf21b
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****
 WORK SPACE REQUESTED = 16777216 64.000 MB COMMAND LINE
 MINIMUM WORK SPACE REQUIRED = 4718592 18.000 MB
 MINIMUM WORK SPACE RECOMMENDED = 6702496 25.568 MB
 WORK SPACE OBTAINED = 16777214 64.000 MB
 BYTES PER WORD = 4

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 RESULTS SHOULD BE IMMEDIATELY BROUGHT TO OUR ATTENTION.

ENTER /SHOW,device TO SET THE GRAPHICS DISPLAY TO device(e.g. X11,4207,ETC.)
 ENTER /MENU,ON TO START THE ANSYS MENU SYSTEM
 ENTER HELP FOR GENERAL ANSYS HELP INFORMATION
 1 /COM, *****
 2 /COM, ANSYS REVISION 5.0A 6/10/1995
 3 /COM, 2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz
 4 /COM, *****
 5 /COM, *
 6 /COM, * File name: ucf21b.inp *
 7 /COM, * 21 PWR UCF with High T.L. Disposal Container *
 8 /COM, * Helium Fill Gas *
 9 /COM, *
 10 /COM, * Material Property file: props01.dat *
 11 /COM, *
 12 /COM, * SNF Conductivity file: pwr15e.parm *
 13 /COM, * 15x15 Mark-B4 PWR SNF Assembly *
 14 /COM, *
 15 /COM, * SNF Heat Loads file: snf1048.dat *
 16 /COM, * SNF Type: 10 years old, 48086 Mwd/MTU *
 17 /COM, *
 18 /COM, * Surface Temp. file: c21b5a.parm *

```

19 /COM, *      83 MTU/acre (20.5 kgU/m^2) AML (High Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 22.5 m *
22 /COM, *      WP c/c spacing = 19.477 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Read in average effective conductivities from SNF model
33 PARRES,CHANGE,pwr15e,parm,
34 /COM, Read in surface temps. from repository model
35 PARRES,CHANGE,c21b5a,parm,
36 /COM, *****
37 /COM,
38 /COM, Define Required Constants:
39 PI=3.141592654
40 /COM,
41 /COM, Define UCF/waste package parameters
42 /COM, (UCF dimensions converted from inches/cm/mm to meters were requi
43 /COM, MIRAD = inner radius of UCF He Backfill shell (m) (NOT
44 /COM, MWALL = UCF He Backfill shell thickness (m) (NOT
45 /COM, DCRAD = disposal container outer radius (m)
46 /COM, OWALL = outer barrier thickness (m)
47 /COM, IWALL = inner barrier thickness (m)
48 /COM, DCIRD = disposal container inner radius (m)
49 /COM,
50 /COM, GCORN = corner guide width (m)
51 /COM, GWALL = basket guide thickness (m)
52 /COM, GLEN1 = side guide 1/3 width (m) (NOT USED)
53 /COM, GLENT = side guide total width (m) (NOT USED)
54 /COM,
55 /COM, HCELL = 1/2 of basket cell opening (m)
56 /COM, SWALL = stainless tube thickness (m)
57 /COM, TWALL = Aluminum thermal shunt thickness (m)
58 /COM, AWALL = Al/boron tube thickness (m) (NOT USED)
59 /COM,
60 /COM, ACTVL = active fuel length
61 /COM, PEAKF = assembly heat axial peaking factor
62 /COM,
63 /COM, MIRAD=1363.6/1000.0/2.0
64 /COM, MWALL=1.0000*2.54/100.0
65 DCRAD=1.6290/2.0
66 OWALL=0.1000
67 IWALL=0.0200
68 DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 GCORN=233.5/1000.0
71 GWALL=9.5/1000.0
72 /COM, GLEN1=9.6170*2.54/100.0
73 /COM, GLENT=28.866*2.54/100.0
74 /COM,
75 HCELL=223.5/1000.0/2.0
76 SWALL=5.0/1000.0
77 TWALL=10.0/1000.0
78 /COM, AWALL=0.2500*2.54/100.0
79 /COM,
80 ACTVL=141.8*2.54/100.0
81 PEAKF=1.25
82 /COM, Define calculated parameters
83 /COM, ASSY = assembly heat production (W) f(yrs)
84 /COM, FUEL = volumetric heat production (W/m3) f(yrs)
85 /COM, FVOLU = assy_volume=cell_width^2*active_length
86 /COM,
87 /COM, PITCH = basket cell outer width (m)
88 /COM, QCELL = 1/4 of basket cell opening (m)

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89 /COM,          SCELL = 1/2 of basket cell opening+SS wall(m)
90 /COM,          ACELL = 1/2 of basket cell opening+SS+AL (m)  (NOT USED)
91 /COM,
92 /COM,          GX## = x coord. of basket guide or thermal shunt/shell c
93 /COM,          GX## = y coord. of basket guide or thermal shunt/shell c
94 /COM,
95 /COM,          MI45 = x coord. MIRAD at 45 deg.  (NOT USED)
96 /COM,          MO45 = x coord. MIRAD+MWALL at 45 deg.  (NOT USED)
97 /COM,          DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
98 /COM,          DM45 = x coord. DCRAD-OWALL at 45 deg.
99 /COM,          DO45 = x coord. DCRAD at 45 deg.
100 *SET,ASSY,
101 *DIM,ASSY, TABLE,101,1,
102 *DIM,FUEL, TABLE,101,1
103 FVOLUME=4*HCELL*HCELL*ACTVL
104 /COM,
105 PITCH=(HCELL+SWALL)*2.0
106 QCELL=HCELL/2.0
107 SCELL=HCELL+SWALL
108 /COM,          ACELL=HCELL+SWALL+AWALL
109 /COM,
110 GX22=SCELL
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=SCELL+TWALL
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=PITCH+TWALL+SCELL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 GX25=GX23+PITCH+GWALL
117 GY25=SQRT(DCIRD*DCIRD-GX25*GX25)
118 /COM,
119 /COM,          MI45=MIRAD/SQRT(2.0)
120 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
121 DI45=DCIRD/SQRT(2.0)
122 DM45=(DCIRD-OWALL)/SQRT(2.0)
123 DO45=DCIRD/SQRT(2.0)
124 /COM,
125 /COM,          Define Transient Time parameters based upon the following:
126 /COM,          Note: 1 year = 3.15576e7 seconds
127 /COM,          TM_START = start time (sec)
128 /COM,          TMI* = time increment for solution (sec)
129 /COM,          TME* = start and stop for time do-loops (sec)
130 /COM,          TMTMAX = time of maximum cladding temperature
131 /COM,
132 TM_START=(1.0E-6)*(3.15576E7)
133 TMI0=0.1*3.15576E7
134 TMI1=1.0*3.15576E7
135 TMI10=10.0*3.15576E7
136 TMI100=100.0*3.15576E7
137 TMI1000=1000.0*3.15576E7
138 TME0=0.9*3.15576E7+TM_START
139 TME1=TMI1+TM_START
140 TME9=9.0*3.15576E7+TM_START
141 TME10=TMI10+TM_START
142 TME50=50.0*3.15576E7+TM_START
143 TME90=90.0*3.15576E7+TM_START
144 TME100=TMI100+TM_START
145 TME1000=TMI1000+TM_START
146 /COM,
147 /COM,          *****
148 /COM,          Define different element types
149 /PREP7
150 ETYPE
151 ET, 1,55,
152 ET, 2,70,
153 ET, 7,32,
154 ET, 16,57,
155 ET, 17,32,
156 ET, 18,50,1,
157 ET, 19,31,
158 ET, 27,32,

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159 /COM, *****
160 /COM,      File props01.dat describes material properties
161 /COM,      and thier reference numbers
162 MPREAD,props01,dat,
163 /COM,      Read in single assembly heat loads
164 /COM,      Calculate the volumetric heat generation
165 /COM,      (Assembly time is in years, FUEL is in seconds)
166 /INPUT,snf1048,dat
167 *VFACT,3.15576E7,
168 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
169 *VFACT,(PEAKF/FVOLUME),
170 *VFUN,FUEL(1),COPY,ASSY(1),
171 FUEL(0,1)=1.0
172 /COM, *****
173 /COM,      Define new material 14 for SNF effective conductivity
174 /COM,      Density:      DENS      (kg/m^3)
175 /COM,      Conductivity: KXX      (W/m/K)
176 /COM,      Specific Heat: C      (J/kg/K)
177 MPTEMP
178 MPTEMP, 1, .00000E+00,
179 MPDATA,DENS,14, 1, .396004E+04,
180 MPDATA, C,14, 1, .27400E+03,
181 /COM,      Store average effective conductivities
182 IINC=1
183 TBSKT=25.0
184 MPTEMP
185 MPTEMP,IINC,TBSKT,
186 IINC=IINC+1
187 *DO,TBSKT,50.0,400.0,50.0,
188     MPTEMP,IINC,TBSKT,
189     IINC=IINC+1
190 *ENDDO
191 IINC=1
192 TBSKT=25.0
193 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
194 IINC=IINC+1
195 *DO,TBSKT,50.0,400.0,50.0,
196     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
197     IINC=IINC+1
198 *ENDDO
199 /COM, *****
200 /COM,      Construct geometry for Disposal Container
201 /COM,
202 /COM,      Define center and axis keypoints for waste package
203 /COM,      Also, create placeholder keypoints and lines
204 /COM,      (K's 1,2,3,4,5,6,7,8)
205 /COM,      (L's 1,2,3,4)
206 K,1,0.0,0.0,0.0,
207 K,2,0.0,0.0,1.0,
208 K,3,0.0,0.0,1.3,
209 K,4,0.0,0.0,1.4,
210 K,5,0.0,0.0,1.5,
211 K,6,0.0,0.0,1.6,
212 K,7,0.0,0.0,1.7,
213 K,8,0.0,0.0,1.8,
214 L,3,4,
215 L,4,5,
216 L,5,6,
217 L,6,7,
218 /COM,      Define disposal container outer radius and material interface
219 /COM,      (K's 9,10,11,12,13,14)
220 /COM,      (L's 5,6,7,8,9,10,11)
221 /COM,      (A's 1,2)
222 K, 9,      0.0,      (0.0-DCRAD),0.0,
223 K,10,      DCRAD,      0.0,0.0,
224 K,11,      0.0,      DCRAD,0.0,
225 K,12,      0.0,      (OWALL-DCRAD),0.0,
226 K,13,      (DCRAD-OWALL),      0.0,0.0,
227 K,14,      0.0,      (DCRAD-OWALL),0.0,
228 L,10,13,

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229 LARC,10, 9,1,          DCRAD,
230 LARC,11,10,1,         DCRAD,
231 LARC,13,12,1,        (DCRAD-OWALL),
232 LARC,14,13,1,        (DCRAD-OWALL),
233 L,11,14,
234 L, 9,12,
235 AL, 5, 6,11, 8,
236 AL,10, 7, 5, 9,
237 /COM, *****
238 /COM,          Define UCF shell inner edge and area
239 /COM,          (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
240 /COM,          ( 31,32,33)
241 /COM,          (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
242 /COM,          ( 28,29,30,31,32)
243 /COM,          (A's 3,4)
244 K,15, 0.0,          DCIRD,0.0,
245 K,16, GX22,          GY22,0.0,
246 K,17, GX23,          GY23,0.0,
247 K,18, GX24,          GY24,0.0,
248 K,19, GX25,          GY25,0.0,
249 K,20, GY25,          GX25,0.0,
250 K,21, GY24,          GX24,0.0,
251 K,22, GY23,          GX23,0.0,
252 K,23, GY22,          GX22,0.0,
253 K,24,DCIRD,          0.0,0.0,
254 K,25, GY22, (0.0-GX22),0.0,
255 K,26, GY23, (0.0-GX23),0.0,
256 K,27, GY24, (0.0-GX24),0.0,
257 K,28, GY25, (0.0-GX25),0.0,
258 K,29, GX25, (0.0-GY25),0.0,
259 K,30, GX24, (0.0-GY24),0.0,
260 K,31, GX23, (0.0-GY23),0.0,
261 K,32, GX22, (0.0-GY22),0.0,
262 K,33, 0.0,(0.0-DCIRD),0.0,
263 L,14,15,
264 LARC,16,15,1,DCIRD,
265 LARC,17,16,1,DCIRD,
266 LARC,18,17,1,DCIRD,
267 LARC,19,18,1,DCIRD,
268 LARC,20,19,1,DCIRD,
269 LARC,21,20,1,DCIRD,
270 LARC,22,21,1,DCIRD,
271 LARC,23,22,1,DCIRD,
272 LARC,24,23,1,DCIRD,
273 LARC,25,24,1,DCIRD,
274 LARC,26,25,1,DCIRD,
275 LARC,27,26,1,DCIRD,
276 LARC,28,27,1,DCIRD,
277 LARC,29,28,1,DCIRD,
278 LARC,30,29,1,DCIRD,
279 LARC,31,30,1,DCIRD,
280 LARC,32,31,1,DCIRD,
281 LARC,33,32,1,DCIRD,
282 L,33,12,
283 L,24,13,
284 LSEL,S,LINE,,12,21,
285 LSEL,A,LINE,, 9,
286 LSEL,A,LINE,,32,
287 AL,ALL,
288 LSEL,S,LINE,,22,31,
289 LSEL,A,LINE,, 8,
290 LSEL,A,LINE,,32,
291 AL,ALL,
292 LSEL,ALL,
293 /COM, *****
294 /COM,          Define tube guides
295 /COM,          (K's 34,35,36,37)
296 /COM,          (L's 33,34,35,36,37,38,39,40,41,42)
297 /COM,          (A's 5,6,7,8,9,10)
298 /COM,

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299 /COM,          top guide
300 K,34,          GX24,          GX24,0.0,
301 K,35,          GX25,          GX25,0.0,
302 L,19,35,
303 L,35,20,
304 L,21,34,
305 L,34,18,
306 /COM,          bottom guide
307 K,36,          GX25, (0.0-GX25),0.0,
308 K,37,          GX24, (0.0-GX24),0.0,
309 L,28,36,
310 L,36,29,
311 L,30,37,
312 L,37,27,
313 L,34,35,
314 L,37,36,
315 /COM, Guide gaps
316 AL,17,33,34,
317 AL,26,37,38,
318 /COM, Guide steel
319 AL,16,33,41,36,
320 AL,18,35,41,34,
321 AL,25,37,42,40,
322 AL,27,39,42,38,
323 /COM, *****
324 /COM, Define thermal shunts
325 /COM, (K's 38,39,40,41,42,43,44,45,46,47,48,49,50)
326 /COM, ( 51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)
327 /COM, (L's 43,44,45,46,47,48,49)
328 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)
329 /COM, ( 67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)
330 /COM, ( 84,85,86,87,88,89,90)
331 /COM, (A's 11 - 27)
332 /COM,
333 /COM, top horizontal thermal shunt
334 K,38,          0.0,          SCELL,0.0,
335 K,39,          0.0,          (SCELL+TWALL),0.0,
336 K,40,          SCELL,          SCELL,0.0,
337 K,41,          SCELL,          (SCELL+TWALL),0.0,
338 K,42,          (SCELL+TWALL), SCELL,0.0,
339 K,43,          (SCELL+TWALL), (SCELL+TWALL),0.0,
340 K,44,(SCELL+TWALL+1.0*PITCH), SCELL,0.0,
341 K,45,(SCELL+TWALL+1.0*PITCH), (SCELL+TWALL),0.0,
342 K,46,(SCELL+TWALL+2.0*PITCH), SCELL,0.0,
343 K,47,(SCELL+TWALL+2.0*PITCH), (SCELL+TWALL),0.0,
344 /COM, bottom horizontal thermal shunt
345 K,48,          0.0,          (0.0-SCELL),0.0,
346 K,49,          0.0,          (0.0-SCELL-TWALL),0.0,
347 K,50,          SCELL,          (0.0-SCELL),0.0,
348 K,51,          SCELL,          (0.0-SCELL-TWALL),0.0,
349 K,52,          (SCELL+TWALL), (0.0-SCELL),0.0,
350 K,53,          (SCELL+TWALL), (0.0-SCELL-TWALL),0.0,
351 K,54,(SCELL+TWALL+1.0*PITCH), (0.0-SCELL),0.0,
352 K,55,(SCELL+TWALL+1.0*PITCH), (0.0-SCELL-TWALL),0.0,
353 K,56,(SCELL+TWALL+2.0*PITCH), (0.0-SCELL),0.0,
354 K,57,(SCELL+TWALL+2.0*PITCH), (0.0-SCELL-TWALL),0.0,
355 /COM, right vertical thermal shunt
356 K,58,          SCELL, (SCELL+TWALL+2.0*PITCH),0.0,
357 K,59,          (SCELL+TWALL), (SCELL+TWALL+2.0*PITCH),0.0,
358 K,60,          SCELL, (SCELL+TWALL+1.0*PITCH),0.0,
359 K,61,          (SCELL+TWALL), (SCELL+TWALL+1.0*PITCH),0.0,
360 K,62,          SCELL,(0.0-SCELL-TWALL-1.0*PITCH),0.0,
361 K,63,          (SCELL+TWALL),(0.0-SCELL-TWALL-1.0*PITCH),0.0,
362 K,64,          SCELL,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
363 K,65,          (SCELL+TWALL),(0.0-SCELL-TWALL-2.0*PITCH),0.0,
364 /COM, Lines; shunt widths, top, bottom, then vertical: (43-60)
365 L,38,39,
366 L,40,41,
367 L,42,43,
368 L,44,45,

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369 L,46,47,
370 L,48,49,
371 L,50,51,
372 L,52,53,
373 L,54,55,
374 L,56,57,
375 L,58,59,
376 L,60,61,
377 L,41,43,
378 L,40,42,
379 L,50,52,
380 L,51,53,
381 L,62,63,
382 L,64,65,
383 /COM, Lines; shunt edges, top, bottom, then vertical: (61-90)
384 L,39,41,
385 L,40,38,
386 L,43,45,
387 L,44,42,
388 L,45,47,
389 L,46,44,
390 L,47,22,
391 L,23,46,
392 L,48,50,
393 L,51,49,
394 L,52,54,
395 L,55,53,
396 L,54,56,
397 L,57,55,
398 L,56,25,
399 L,26,57,
400 L,58,16,
401 L,17,59,
402 L,60,58,
403 L,59,61,
404 L,41,60,
405 L,61,43,
406 L,50,40,
407 L,42,52,
408 L,62,51,
409 L,53,63,
410 L,64,62,
411 L,63,65,
412 L,32,64,
413 L,65,31,
414 /COM, define areas for thermal shunts
415 AL,43,61,44,62,
416 AL,44,55,45,56,
417 AL,45,63,46,64,
418 AL,46,65,47,66,
419 AL,47,67,20,68,
420 AL,48,69,49,70,
421 AL,49,57,50,58,
422 AL,50,71,51,72,
423 AL,51,73,52,74,
424 AL,52,75,23,76,
425 AL,14,77,53,78,
426 AL,53,79,54,80,
427 AL,54,81,55,82,
428 AL,56,83,57,84,
429 AL,58,85,59,86,
430 AL,59,87,60,88,
431 AL,60,89,29,90,
432 /COM, *****
433 /COM, Define shell gaps at the exterior of the tube array
434 /COM, (K's 66 - 67)
435 /COM, (L's 91 - 99)
436 /COM, (A's 28 - 34)
437 /COM,
438 K,66, 0.0, (SCCELL+TWALL+2.0*PITCH),0.0,

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439 K,67,          0.0,(0.0-SCCELL-TWALL-2.0*PITCH),0.0,
440 /COM,
441 L,15,66,
442 L,66,58,
443 L,59,18,
444 L,21,47,
445 L,46,56,
446 L,57,27,
447 L,30,65,
448 L,64,67,
449 L,67,33,
450 /COM,
451 AL,13,91,92,77,
452 AL,15,78,93,
453 AL,19,94,67,
454 AL,21,68,95,75,22,
455 AL,24,76,96,
456 AL,28,97,90,
457 AL,30,89,98,99,
458 /COM, *****
459 /COM, Define center half-tube
460 /COM, (K's 68-75)
461 /COM, (L's 100-110)
462 /COM, (A's 35-38)
463 K,68,          0.0,          HCELL,0.0,
464 K,69,          HCELL,          HCELL,0.0,
465 K,70,          0.0,          (0.0-HCELL),0.0,
466 K,71,          HCELL,          (0.0-HCELL),0.0,
467 K,72,          0.0,          SCELL,0.0,
468 K,73,          SCELL,          SCELL,0.0,
469 K,74,          0.0,          (0.0-SCELL),0.0,
470 K,75,          SCELL,          (0.0-SCELL),0.0,
471 L,70,68,
472 L,70,74,
473 L,68,72,
474 L,71,75,
475 L,69,73,
476 L,75,74,
477 L,71,70,
478 L,68,69,
479 L,72,73,
480 L,69,71,
481 L,73,75,
482 AL,100,106,109,107,
483 AL,101,105,103,106,
484 AL,109,103,110,104,
485 AL,102,107,104,108,
486 /COM, *****
487 /COM, Define center full-tube
488 /COM, (K's 76 - 83)
489 /COM, (L's 111 - 122)
490 /COM, (A's 39 - 43)
491 K,76,          (PITCH+TWALL-HCELL),          HCELL,0.0,
492 K,77,          (PITCH+TWALL+HCELL),          HCELL,0.0,
493 K,78,          (PITCH+TWALL-HCELL),          (0.0-HCELL),0.0,
494 K,79,          (PITCH+TWALL+HCELL),          (0.0-HCELL),0.0,
495 K,80,          (PITCH+TWALL-SCELL),          SCELL,0.0,
496 K,81,          (PITCH+TWALL+SCELL),          SCELL,0.0,
497 K,82,          (PITCH+TWALL-SCELL),          (0.0-SCELL),0.0,
498 K,83,          (PITCH+TWALL+SCELL),          (0.0-SCELL),0.0,
499 L,78,82,
500 L,76,80,
501 L,79,83,
502 L,77,81,
503 L,83,82,
504 L,79,78,
505 L,76,77,
506 L,80,81,
507 L,82,80,
508 L,78,76,

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509 L,77,79,
510 L,81,83,
511 AL,120,116,121,117,
512 AL,119,111,120,112,
513 AL,111,115,113,116,
514 AL,121,113,122,114,
515 AL,112,117,114,118,
516 /COM, *****
517 /COM, Set element shapes and sizes for tubes
518 /COM, 14x14 mesh in fuel with 2
519 /COM, divisions per tube layer
520 ESHAPE,2,
521 ESIZE,,1,
522 LSEL,S,LINE,,115,122,1,
523 LSEL,A,LINE,,109,110,1,
524 LSEL,A,LINE,,100,
525 LESIZE,ALL,,,14,
526 LSEL,S,LINE,,105,108,1,
527 LESIZE,ALL,,,7,
528 LSEL,S,LINE,,101,104,1,
529 LSEL,A,LINE,,111,114,1,
530 LESIZE,ALL,,,2,
531 LSEL,ALL,
532 /COM,
533 /COM, Mesh areas
534 /COM, first fuel, then stainless tubes
535 MAT,14,
536 TYPE,1,
537 AMESH,35,
538 AMESH,39,
539 MAT,1,
540 TYPE,1,
541 AMESH,36,38,1,
542 AMESH,40,43,1,
543 /COM, *****
544 /COM, Copy tube mesh
545 /COM,
546 /COM, center half tube above and below
547 /COM, (A's 44 - 47)
548 AGEN,2,35,38,1,0.0,(PITCH+TWALL),0.0,0,0,
549 /COM, (A's 48 - 51)
550 AGEN,2,35,38,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
551 /COM, (A's 52 - 55)
552 AGEN,2,35,38,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
553 /COM, (A's 56 - 59)
554 AGEN,2,35,38,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
555 /COM,
556 /COM, center full tube side, above, and below
557 /COM, (A's 60 - 64 = Side)
558 AGEN,2,39,43,1,PITCH,0.0,0.0,0,0,
559 /COM, (A's 65 - 69 = up 1)
560 AGEN,2,39,43,1,0.0,(PITCH+TWALL),0.0,0,0,
561 /COM, (A's 70 - 74 = up 2)
562 AGEN,2,39,43,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
563 /COM, (A's 75 - 79 = down 1)
564 AGEN,2,39,43,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
565 /COM, (A's 80 - 84 = down 2)
566 AGEN,2,39,43,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
567 /COM, center full tube get corners
568 /COM, (A's 85 - 89 = up corner)
569 AGEN,2,60,64,1,0.0,(PITCH+TWALL),0.0,0,0,
570 /COM, (A's 90 - 94 = down corner)
571 AGEN,2,60,64,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
572 /COM,
573 NUMMRG,NODE,
574 NUMMRG,KP,
575 /COM, *****
576 /COM, Create mesh in tube guides, thermal shunts
577 /COM, Set mesh size for gaps.....
578 ESIZE,,2,

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579 LSEL,S,LINE,,41,60,1,
580 LSEL,A,LINE,,14,20,2,
581 LSEL,A,LINE,,23,29,2,
582 LESIZE,ALL,,, 2,
583 LSEL,S,LINE,,61,62,1,
584 LSEL,A,LINE,,69,70,1,
585 LSEL,A,LINE,,91,92,1,
586 LSEL,A,LINE,,98,99,1,
587 LSEL,A,LINE,,21,22,1,
588 LSEL,A,LINE,,77,78,1,
589 LSEL,A,LINE,,89,90,1,
590 LSEL,A,LINE,,67,68,1,
591 LSEL,A,LINE,,75,76,1,
592 LSEL,A,LINE,,13,
593 LSEL,A,LINE,,30,
594 LESIZE,ALL,,, 7,
595 LSEL,S,LINE,,63,66,1,
596 LSEL,A,LINE,,71,74,1,
597 LSEL,A,LINE,,79,88,1,
598 LSEL,A,LINE,,33,40,1,
599 LSEL,A,LINE,,93,97,1,
600 LSEL,A,LINE,,15,19,2,
601 LSEL,A,LINE,,24,28,2,
602 LESIZE,ALL,,, 14,
603 /COM, MESH CORNER GUIDES
604 ESHAPE,2,
605 ESIZE,,1,
606 MAT,2,
607 TYPE,1,
608 AMESH, 7,10,1,
609 /COM, MESH THERMAL SHUNTS
610 ESHAPE,2,
611 ESIZE,,1,
612 MAT,13,
613 TYPE,1,
614 AMESH,11,27,1,
615 /COM, *****
616 /COM, Create mesh in UCF inner shell
617 /COM, (L's 105,108)
618 LSEL,S,LINE,,13,21,1,
619 LCCAT,ALL,
620 LSEL,S,LINE,,22,30,1,
621 LCCAT,ALL,
622 LSEL,ALL,
623 LESIZE,8,,,64,
624 LESIZE,9,,,64,
625 LESIZE,12,,, 3,
626 LESIZE,31,,, 3,
627 MAT,2,
628 TYPE,1,
629 AMESH,3,4,1
630 /COM, Delete concatenated lines
631 /COM, (L's freed up 105,108)
632 /COM, LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
633 /COM,
634 LSEL,S,LINE,,6,7,1,
635 LESIZE,ALL,,,64,
636 LSEL,ALL,
637 LESIZE, 5,,, 3,
638 LESIZE,10,,, 3,
639 LESIZE,11,,, 3,
640 MAT,3,
641 TYPE,1,
642 AMESH,1,2,1,
643 NUMMRG,NODE,
644 NUMMRG,KP,
645 /COM, *****
646 /COM, Create mesh in empty basket spaces
647 ESIZE,0.1,
648 ESHAPE,0,

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649 MAT,7,
650 TYPE,1,
651 AMESH,5,6,1,
652 AMESH,28,34,1,
653 NUMMRG,NODE,
654 NUMMRG,KP,
655 /COM, *****
656 /COM,          Create radiation surface elements
657 /COM,          Basket spaces
658 MAT,2,
659 TYPE,17,
660 LMESH,13,21,2,
661 LMESH,22,30,2,
662 LMESH,33,34,1,
663 LMESH,37,38,1,
664 MAT,1,
665 TYPE,17,
666 LMESH,92,98,1,
667 MAT,13,
668 TYPE,17,
669 LMESH,67,68,1,
670 LMESH,75,78,1,
671 LMESH,89,90,1,
672 /COM,
673 FINISH
674 /COM, *****
675 /COM,          Create element mesh plots to illustrate model
676 /COM,          View mesh for entire model
677 /RESET
678 /TRIAD,OFF,
679 /NUM,1,
680 /PNUM,MAT,1,
681 /TYPE,HIDP,
682 /GLINE,,0,
683 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
684 /TITLE,21 PWR UCF/Waste Package - 1/2 FEM Model
685 /SHOW,meshfull,grph,1,8,
686 EPLOT
687 ESEL,U,MAT,,7,
688 /SHOW,meshgap,grph,1,8,
689 EPLOT
690 /COM,          View mesh for radiation substructure
691 /PNUM,MAT,0,
692 /PNUM,TYPE,1,
693 ESEL,S,TYPE,,17,
694 /TITLE,21 PWR UCF/Waste Package - Radiation Matrix
695 /SHOW,meshrad,grph,1,8,
696 EPLOT
697 ESEL,ALL,
698 /TITLE,21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
699 /COM, *****
700 /COM,          Generate super-elements
701 /AUX12,
702 ESEL,S,TYPE,,17,
703 NSLE,S,
704 STEF,5.67E-8,
705 GEOM,1,0,
706 VTYPE,0,800,
707 WRITE,spaces,
708 ESEL,ALL,
709 NSEL,ALL,
710 FINISH
711 /PREP7,
712 TYPE,18,
713 SE,spaces,
714 /COM,          Delete radiation edge elements
715 LSEL,S,TYPE,,17,
716 LCLEAR,ALL,
717 LSEL,ALL,
718 FINISH

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719 /COM, *****
720 /COM,      Set solution parameters and apply B.C.'s
721 /COM,
722 /COM,      Solve steady-state for initial conditions
723 /COM,      with WP surface equal to drift ambient
724 /COM,      temperature from repository model.
725 /SOLU
726 ANTYPE,TRAN,NEW,
727 NROPT,AUTO,
728 TRNOPT,FULL,
729 TOFFST,273.15,
730 LSEL,S,LINE,,6,
731 LSEL,A,LINE,,7,
732 NSLL,S,1,
733 D,ALL,TEMP,DFAMBT,
734 LSEL,ALL,
735 NSEL,ALL,
736 ASEL,S,MAT,,14,
737 ESLA,S,
738 BFE,ALL,HGEN,,(FUEL(TM_START)),
739 ASEL,ALL,
740 ESEL,ALL,
741 TIMINT,OFF,
742 TIME,1e-6,
743 AUTOTS,ON,
744 KBC,0,
745 SOLVE
746 /COM,      Solve steady-state for initial conditions
747 /COM,      with WP surface temperatures from repository
748 /COM,      steady-state solution.
749 LSEL,S,LINE,,6,
750 LSEL,A,LINE,,7,
751 NSLL,S,1,
752 DDELE,ALL,TEMP,
753 LSEL,ALL,
754 NSEL,ALL,
755 DK,11,TEMP,(WPTOP(TM_START)),,1,
756 DK,10,TEMP,(WPSID(TM_START)),,1,
757 DK, 9,TEMP,(WPBOT(TM_START)),,1,
758 ASEL,S,MAT,,14,
759 ESLA,S,
760 BFE,ALL,HGEN,,(FUEL(TM_START)),
761 ASEL,ALL,
762 ESEL,ALL,
763 TIMINT,OFF,
764 TIME,2e-6,
765 AUTOTS,ON,
766 KBC,0,
767 SOLVE
768 /COM, *****
769 /COM,      Set time integration parameters
770 TIMINT,ON,
771 AUTOTS,ON,
772 /COM,      Time substep ranges from 10 sec to 1/4 loadstep
773 NSUBST,10,40,5,ON
774 /COM,      Begin Transient
775 /COM,      Apply loads and solve for 0 to .9 years
776 *DO,TM,TM_START,TME0,TM10
777     TIME,TM,
778     ASEL,S,MAT,,14,
779     ESLA,S,
780     BFE,ALL,HGEN,,(FUEL(TM)),
781     ASEL,ALL
782     ESEL,ALL
783     DK,11,TEMP,(WPTOP(TM)),,1,
784     DK,10,TEMP,(WPSID(TM)),,1,
785     DK, 9,TEMP,(WPBOT(TM)),,1,
786     SOLVE
787 *ENDDO
788 /COM,      Apply loads and solve for 1 to 9 years

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789 *DO,TM,TME1,TME9,TM11
790     TIME,TM,
791     ASEL,S,MAT,,14,
792     ESLA,S,
793     BFE,ALL,HGEN,,(FUEL(TM)),
794     ASEL,ALL
795     ESEL,ALL
796     DK,11,TEMP,(WPTOP(TM)),,1,
797     DK,10,TEMP,(WPSID(TM)),,1,
798     DK, 9,TEMP,(WPBOT(TM)),,1,
799     SOLVE
800 *ENDDO
801 /COM,          Apply loads and solve for 10 to 90 years
802 *DO,TM,TME10,TME90,TM10
803     TIME,TM,
804     ASEL,S,MAT,,14,
805     ESLA,S,
806     BFE,ALL,HGEN,,(FUEL(TM)),
807     ASEL,ALL
808     ESEL,ALL
809     DK,11,TEMP,(WPTOP(TM)),,1,
810     DK,10,TEMP,(WPSID(TM)),,1,
811     DK, 9,TEMP,(WPBOT(TM)),,1,
812     SOLVE
813 *ENDDO
814 /COM,          Apply loads and solve for 100 to 1000 years
815 *DO,TM,TME100,TME1000,TM100
816     TIME,TM,
817     ASEL,S,MAT,,14,
818     ESLA,S,
819     BFE,ALL,HGEN,,(FUEL(TM)),
820     ASEL,ALL
821     ESEL,ALL
822     DK,11,TEMP,(WPTOP(TM)),,1,
823     DK,10,TEMP,(WPSID(TM)),,1,
824     DK, 9,TEMP,(WPBOT(TM)),,1,
825     SOLVE
826 *ENDDO
827 FINISH
828 SAVE,
829 /COM,          *****
830 /COM,          Create element contour plots of solution results
831 /COM,
832 /COM,          Sort through solution results for time of max temp.
833 /POST26,
834 NSOL,2,(NODE(0.0,0.0,0.0)),TEMP,,peakclad,
835 STORE,NEW,
836 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
837 FINISH
838 /POST1,
839 /COM,          Create temperature contour plots of WP at peak
840 /RESET
841 /TRIAD,OFF,
842 /NUM, 1,
843 /PNUM,MAT, 1,
844 /TYPE,HIDP,
845 /GLINE,,-1,
846 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
847 ESEL,U,MAT,,7,
848 SET,NEAR,,,,TMTMAX,
849 /TITLE, 21 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
850 /SHOW,solupk,grph,0,8,
851 /CONTOUR,1,128,AUTO,
852 PLNSOL,TEMP,
853 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
854 SET,NEAR,,,,TME10,
855 /TITLE, 21 PWR UCF/WP at 10 years
856 /SHOW,solu10,grph,0,8,
857 /CONTOUR,1,128,USER,
858 PLNSOL,TEMP,

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859 SET,NEAR,,,TME50,
860 /TITLE, 21 PWR UCF/WP at 50 years
861 /SHOW,solu50,grph,0,8,
862 /CONTOUR,1,128,USER,
863 PLNSOL,TEMP,
864 SET,NEAR,,,TME100,
865 /TITLE, 21 PWR UCF/WP at 100 years
866 /SHOW,solu100,grph,0,8,
867 /CONTOUR,1,128,USER,
868 PLNSOL,TEMP,
869 ESEL,ALL,
870 FINISH
871 /COM, *****
872 /COM,      Print time/temperature output at specific locations
873 /COM,      Save profile from center to edge
874 /COM,
875 /COM,      Variable Legend: A01i000
876 /COM,      c = center of assembly
877 /COM,      h = halfway between center and tube
878 /COM,      s = inside structural stainless tube layer
879 /COM,      t = stainless tube cladding
880 /COM,      g = tube guide
881 /COM,      i = inner barrier of DC
882 /COM,      o = outer barrier of DC
883 /COM,      ## = ID number of assembly (01 is center)
884 /COM,      i = side of assembly toward center of WP
885 /COM,      o = side of assembly toward edge of WP
886 /COM,      000 = profile center down
887 /COM,      045 = profile 45 deg down
888 /COM,      090 = profile center side
889 /COM,      135 = profile 45 deg up
890 /COM,      180 = profile center up
891 /POST26,
892 NUMVAR,30,
893 /COM,
894 /COM, *****
895 /COM, *   Temperature Profile from center to bottom of WP (0 deg.)   *
896 /COM, *****
897 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,c01i000,
898 NSOL, 3,(NODE(0.0, (0.0-QCELL),0.0)),TEMP,,h01o000,
899 NSOL, 4,(NODE(0.0, (0.0-HCELL),0.0)),TEMP,,s01o000,
900 NSOL, 5,(NODE(0.0, (0.0-SCELL),0.0)),TEMP,,t01o000,
901 NSOL, 6,(NODE(0.0, (0.0-SCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o000,
902 NSOL, 7,(NODE(0.0, (SCELL-(PITCH+TWALL)),0.0)),TEMP,,t06i000,
903 NSOL, 8,(NODE(0.0, (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s06i000,
904 NSOL, 9,(NODE(0.0, (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h06i000,
905 NSOL,10,(NODE(0.0, ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c06i000,
906 NSOL,11,(NODE(0.0,((-1.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h06o000,
907 NSOL,12,(NODE(0.0,((-1.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s06o000,
908 NSOL,13,(NODE(0.0, (SCELL-2.0*PITCH-TWALL),0.0)),TEMP,,t13i000,
909 NSOL,14,(NODE(0.0, (HCELL-2.0*PITCH-TWALL),0.0)),TEMP,,s13i000,
910 NSOL,15,(NODE(0.0, (QCELL-2.0*PITCH-TWALL),0.0)),TEMP,,h13i000,
911 NSOL,16,(NODE(0.0, (-2.0*PITCH-TWALL),0.0)),TEMP,,c13i000,
912 NSOL,17,(NODE(0.0,((-2.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h13o000,
913 NSOL,18,(NODE(0.0,((-2.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s13o000,
914 NSOL,19,(NODE(0.0,((-2.0*PITCH)-TWALL-SCELL),0.0)),TEMP,,t13o000,
915 NSOL,20,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i13i000,
916 NSOL,21,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i13o000,
917 NSOL,22,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o13o000,
918 PRVAR, 2, 3, 4, 5, 6, 7,
919 PRVAR, 8, 9,10,11,12,13,
920 PRVAR,14,15,16,17,18,19,
921 PRVAR,20,21,22,
922 /COM,
923 /COM, *****
924 /COM, *   Temperature Profile from center to lower right (45 deg.)   *
925 /COM, *****
926 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,c01i045,
927 NSOL, 3,(NODE( QCELL, (0.0-QCELL),0.0)),TEMP,,h01o045,
928 NSOL, 4,(NODE( HCELL, (0.0-HCELL),0.0)),TEMP,,s01o045,

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929 NSOL, 5, (NODE( SCCELL, (0.0-SCCELL), 0.0)), TEMP, t01o045,
930 NSOL, 6, (NODE( (SCCELL+0.5*TWALL), (0.0-SCCELL-(0.5*TWALL)), 0.0)), TEMP, ts1o045,
931 NSOL, 7, (NODE( (PITCH+TWALL-SCCELL), (SCCELL-(PITCH+TWALL)), 0.0)), TEMP, t08i045,
932 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), (HCELL-(PITCH+TWALL)), 0.0)), TEMP, s08i045,
933 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), (QCELL-(PITCH+TWALL)), 0.0)), TEMP, h08i045,
934 NSOL, 10, (NODE( (1.0*PITCH+TWALL), ((-1.0*PITCH)-TWALL), 0.0)), TEMP, c08i045,
935 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), (0.0-PITCH-TWALL-QCELL), 0.0)), TEMP, h08o045,
936 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), (0.0-PITCH-TWALL-HCELL), 0.0)), TEMP, s08o045,
937 NSOL, 13, (NODE( GX24, (0.0-GX24), 0.0)), TEMP, g08i045,
938 NSOL, 14, (NODE( GX25, (0.0-GX25), 0.0)), TEMP, g08o045,
939 NSOL, 15, (NODE( DI45, (-1.0*DI45), 0.0)), TEMP, i08i045,
940 NSOL, 16, (NODE( DM45, (-1.0*DM45), 0.0)), TEMP, i08o045,
941 NSOL, 17, (NODE( DO45, (-1.0*DO45), 0.0)), TEMP, o08o045,
942 /COM, Add centers of assemblies 11 and 12
943 NSOL, 18, (NODE( (2.0*PITCH+TWALL), (-1.0*PITCH-TWALL), 0.0)), TEMP, c11i045,
944 NSOL, 19, (NODE( (PITCH+TWALL), (-2.0*PITCH-TWALL), 0.0)), TEMP, c12i045,
945 PRVAR, 2, 3, 4, 5, 6, 7,
946 PRVAR, 8, 9, 10, 11, 12, 13,
947 PRVAR, 14, 15, 16, 17, 18, 19,
948 /COM,
949 /COM, *****
950 /COM, * Temperature Profile from center to side of WP (90 deg.) *
951 /COM, *****
952 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, c01i090,
953 NSOL, 3, (NODE( QCELL, 0.0, 0.0)), TEMP, h01o090,
954 NSOL, 4, (NODE( HCELL, 0.0, 0.0)), TEMP, s01o090,
955 NSOL, 5, (NODE( SCCELL, 0.0, 0.0)), TEMP, t01o090,
956 NSOL, 6, (NODE( (SCCELL+0.5*TWALL), 0.0, 0.0)), TEMP, ts1o090,
957 NSOL, 7, (NODE( (PITCH+TWALL-SCCELL), 0.0, 0.0)), TEMP, t02i090,
958 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), 0.0, 0.0)), TEMP, s02i090,
959 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), 0.0, 0.0)), TEMP, h02i090,
960 NSOL, 10, (NODE( (PITCH+TWALL), 0.0, 0.0)), TEMP, c02i090,
961 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), 0.0, 0.0)), TEMP, h02o090,
962 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), 0.0, 0.0)), TEMP, s02o090,
963 NSOL, 13, (NODE( (PITCH+TWALL+SCCELL), 0.0, 0.0)), TEMP, t02i090,
964 NSOL, 14, (NODE( (2.0*PITCH+TWALL-HCELL), 0.0, 0.0)), TEMP, s04i090,
965 NSOL, 15, (NODE( (2.0*PITCH+TWALL-QCELL), 0.0, 0.0)), TEMP, h04i090,
966 NSOL, 16, (NODE( (2.0*PITCH+TWALL), 0.0, 0.0)), TEMP, c04i090,
967 NSOL, 17, (NODE( (2.0*PITCH+TWALL+QCELL), 0.0, 0.0)), TEMP, h04o090,
968 NSOL, 18, (NODE( (2.0*PITCH+TWALL+HCELL), 0.0, 0.0)), TEMP, s04o090,
969 NSOL, 19, (NODE( (2.0*PITCH+TWALL+SCCELL), 0.0, 0.0)), TEMP, t04o090,
970 NSOL, 20, (NODE( (DCRAD-OWALL-IWALL), 0.0, 0.0)), TEMP, i04i090,
971 NSOL, 21, (NODE( (DCRAD-OWALL), 0.0, 0.0)), TEMP, i04o090,
972 NSOL, 22, (NODE( (DCRAD, 0.0, 0.0)), TEMP, o04o090,
973 PRVAR, 2, 3, 4, 5, 6, 7,
974 PRVAR, 8, 9, 10, 11, 12, 13,
975 PRVAR, 14, 15, 16, 17, 18, 19,
976 PRVAR, 20, 21, 22,
977 /COM,
978 /COM, *****
979 /COM, * Temperature Profile from center to upper right (135 deg.) *
980 /COM, *****
981 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, c01i135,
982 NSOL, 3, (NODE( QCELL, QCELL, 0.0)), TEMP, h01o135,
983 NSOL, 4, (NODE( HCELL, HCELL, 0.0)), TEMP, s01o135,
984 NSOL, 5, (NODE( SCCELL, SCCELL, 0.0)), TEMP, t01o135,
985 NSOL, 6, (NODE( (SCCELL+0.5*TWALL), (SCCELL+0.5*TWALL), 0.0)), TEMP, ts1o135,
986 NSOL, 7, (NODE( (PITCH+TWALL-SCCELL), (PITCH+TWALL-SCCELL), 0.0)), TEMP, t07i135,
987 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), (PITCH+TWALL-HCELL), 0.0)), TEMP, s07i135,
988 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), (PITCH+TWALL-QCELL), 0.0)), TEMP, h07i135,
989 NSOL, 10, (NODE( (PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, c07i135,
990 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), (PITCH+TWALL+QCELL), 0.0)), TEMP, h07o135,
991 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), (PITCH+TWALL+HCELL), 0.0)), TEMP, s07o135,
992 NSOL, 13, (NODE( GX24, GX24, 0.0)), TEMP, g07i135,
993 NSOL, 14, (NODE( GX25, GX25, 0.0)), TEMP, g07o135,
994 NSOL, 15, (NODE( DI45, DI45, 0.0)), TEMP, i07i135,
995 NSOL, 16, (NODE( DM45, DM45, 0.0)), TEMP, i07o135,
996 NSOL, 17, (NODE( DO45, DO45, 0.0)), TEMP, o07o135,
997 /COM, Add centers of assemblies 9 and 10
998 NSOL, 18, (NODE( (2.0*PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, c09i135,

```

```

999 NSOL,19,(NODE(      (PITCH+TWALL), (2.0*PITCH+TWALL),0.0)),TEMP,,c10i135,
1000 PRVAR, 2, 3, 4, 5, 6, 7,
1001 PRVAR, 8, 9,10,11,12,13,
1002 PRVAR,14,15,16,17,18,19,
1003 /COM,
1004 /COM, *****
1005 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1006 /COM, *****
1007 NSOL, 2,(NODE(0.0,      0.0,0.0)),TEMP,,c01i180,
1008 NSOL, 3,(NODE(0.0,      QCELL,0.0)),TEMP,,h01o180,
1009 NSOL, 4,(NODE(0.0,      HCELL,0.0)),TEMP,,s01o180,
1010 NSOL, 5,(NODE(0.0,      SCELL,0.0)),TEMP,,t01o180,
1011 NSOL, 6,(NODE(0.0,      (SCELL+0.5*TWALL),0.0)),TEMP,,ts5i180,
1012 NSOL, 7,(NODE(0.0,      (PITCH+TWALL-SCELL),0.0)),TEMP,,t05i180,
1013 NSOL, 8,(NODE(0.0,      (PITCH+TWALL-HCELL),0.0)),TEMP,,s05i180,
1014 NSOL, 9,(NODE(0.0,      (PITCH+TWALL-QCELL),0.0)),TEMP,,h05i180,
1015 NSOL,10,(NODE(0.0,      (PITCH+TWALL),0.0)),TEMP,,c05i180,
1016 NSOL,11,(NODE(0.0,      (PITCH+TWALL+QCELL),0.0)),TEMP,,h05o180,
1017 NSOL,12,(NODE(0.0,      (PITCH+TWALL+HCELL),0.0)),TEMP,,s05o180,
1018 NSOL,13,(NODE(0.0,      (PITCH+TWALL+SCELL),0.0)),TEMP,,t05i180,
1019 NSOL,14,(NODE(0.0,(2.0*PITCH+TWALL-HCELL),0.0)),TEMP,,s03i180,
1020 NSOL,15,(NODE(0.0,(2.0*PITCH+TWALL-QCELL),0.0)),TEMP,,h03i180,
1021 NSOL,16,(NODE(0.0,      (2.0*PITCH+TWALL),0.0)),TEMP,,c03i180,
1022 NSOL,17,(NODE(0.0,(2.0*PITCH+TWALL+QCELL),0.0)),TEMP,,h03o180,
1023 NSOL,18,(NODE(0.0,(2.0*PITCH+TWALL+HCELL),0.0)),TEMP,,s03o180,
1024 NSOL,19,(NODE(0.0,(2.0*PITCH+TWALL+SCELL),0.0)),TEMP,,t03o180,
1025 NSOL,20,(NODE(0.0,      (DCRAD-OWALL-IWALL),0.0)),TEMP,,i03i180,
1026 NSOL,21,(NODE(0.0,      (DCRAD-OWALL),0.0)),TEMP,,i03o180,
1027 NSOL,22,(NODE(0.0,      DCRAD,0.0)),TEMP,,o03o180,
1028 PRVAR, 2, 3, 4, 5, 6, 7,
1029 PRVAR, 8, 9,10,11,12,13,
1030 PRVAR,14,15,16,17,18,19,
1031 PRVAR,20,21,22,
1032 FINISH
1033 /COM, *****
1034 /COM, End of batch input file
1035 /COM, *****
1036 /EXIT,
1037 /EOF

```

RUN SETUP PROCEDURE FROM FILE= /ansys50a/docu/start.ans

```

/INPUT FILE= /ansys50a/docu/start.ans LINE=      0
*****
ANSYS STARTUP FILE start.ans
*****

```

```

ABBREVIATION= K1      /pnum,kp ,1,
ABBREVIATION= K0      /pnum,kp ,0,
ABBREVIATION= L1      /pnum,line,1,
ABBREVIATION= L0      /pnum,line,0,
ABBREVIATION= A1      /pnum,area,1,
ABBREVIATION= A0      /pnum,area,0,
ABBREVIATION= V1      /pnum,volu,1,
ABBREVIATION= V0      /pnum,volu,0,
ABBREVIATION= N1      /pnum,node,1,
ABBREVIATION= N0      /pnum,node,0,
ABBREVIATION= E1      /pnum,elem,1,
ABBREVIATION= E0      /pnum,elem,0,

```

```

ABBREVIATION= M1      /pnum,mat ,1,
ABBREVIATION= M0      /pnum,mat ,0,
ABBREVIATION= R1      /pnum,real,1,
ABBREVIATION= R0      /pnum,real,0,
ABBREVIATION= T1      /pnum,type,1,
ABBREVIATION= T0      /pnum,type,0,
ABBREVIATION= C1      /number,1,
ABBREVIATION= C0      /number,0,
ABBREVIATION= INP     /input,,inp,
ABBREVIATION= X3D     /show,3d,
ABBREVIATION= X11     /show,x11,
ABBREVIATION= VEC     /show,,,1,
ABBREVIATION= RAS     /show,,,0,
ABBREVIATION= ON      /menu,on,
ABBREVIATION= OFF     /menu,off,
ABBREVIATION= NVP     /config,nvpag,512,
ABBREVIATION= QUIT    /exit,nosav,
XYZ TRIAD DISPLAY SET TO OFF

```

VIEW CONE ANGLE FOR WINDOW 1 25.00

 END start.ans

To start ANSYS menu:

```

type:  x3d  for console
       x11  for X-term

```

type: on

```

*****
*****
ANSYS REVISION  5.0A                      6/10/1995
2-D Model of 125 ton burnup credit UCF-DC    Thomas L. Lotz
*****
*
* File name: ucf21b.inp                      *
*   21 PWR UCF with High T.L. Disposal Container *
*   Helium Fill Gas                          *
*
* Material Property file: props01.dat        *
*
* SNF Conductivity file:  pwr15e.parm        *
*   15x15 Mark-B4 PWR SNF Assembly          *
*
* SNF Heat Loads file:   snf1048.dat         *
*   SNF Type: 10 years old, 48086 MWd/MTU    *
*
* Surface Temp. file:    c21b5a.parm        *
*   83 MTU/acre (20.5 kgU/m^2) AML (High Thermal Loading) *
*   5.0 m Diameter Drift with Concrete Invert *
*   Drift spacing = 22.5 m                  *
*

```

```

*      WP c/c spacing = 19.477 m      *
*                                     *
*****
Increase the number of database pages from 16 (256) to 32 Mb

```

```

NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512
Work space must also be increased (-m 64)
*****

```

```

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

```

```

SI UNITS SPECIFIED
LENGTH      = METERS(M)
MASS        = KILOGRAMS(KG)
TIME        = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT     = AMPS
*****
Read in average effective conductivities from SNF model

```

```

*** NOTE ***      CP=      .660   TIME= 11:05:15
Restore ANSYS parameters from file= pwr15e.parm.

```

```

/INPUT FILE= pwr15e.parm LINE=      0

```

```

PRINTOUT RESUMED BY /GOP
Read in surface temps. from repository model

```

```

*** NOTE ***      CP=      .880   TIME= 11:05:15
Restore ANSYS parameters from file= c21b5a.parm.

```

```

/INPUT FILE= c21b5a.parm LINE=      0

```

```

PRINTOUT RESUMED BY /GOP
*****

```

Define Required Constants:

```

PARAMETER PI      =      3.141593

```

```

Define UCF/waste package parameters
(UCF dimensions converted from inches/cm/mm to meters were requi
MIRAD = inner radius of UCF He Backfill shell (m) (NOT
MWALL = UCF He Backfill shell thickness (m) (NOT
DCRAD = disposal container outer radius (m)
OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)
DCIRD = disposal container inner radius (m)

GCORN = corner guide width (m)
GWALL = basket guide thickness (m)
GLEN1 = side guide 1/3 width (m) (NOT USED)
GLEN2 = side guide total width (m) (NOT USED)

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
TWALL = Aluminum thermal shunt thickness (m)
AWALL = Al/boron tube thickness (m) (NOT USED)

ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor

```

```

MIRAD=1363.6/1000.0/2.0
MWALL=1.0000*2.54/100.0

```

```

PARAMETER DCRAD   =      .8145000

```

```

PARAMETER OWALL   =      .1000000

```

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .6945000

PARAMETER GCORN = .2335000

PARAMETER GWALL = .9500000E-02

GLEN1=9.6170*2.54/100.0

GLENT=28.866*2.54/100.0

PARAMETER HCELL = .1117500

PARAMETER SWALL = .5000000E-02

PARAMETER TWALL = .1000000E-01

AWALL=0.2500*2.54/100.0

PARAMETER ACTVL = 3.601720

PARAMETER PEAKF = 1.250000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)

FUEL = volumetric heat production (W/m3) f(yrs)

FVOLUME = assy_volume=cell_width^2*active_length

PITCH = basket cell outer width (m)

QCELL = 1/4 of basket cell opening (m)

SCCELL = 1/2 of basket cell opening+SS wall(m)

ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)

GX## = x coord. of basket guide or thermal shunt/shell c

GY## = y coord. of basket guide or thermal shunt/shell c

MI45 = x coord. MIRAD at 45 deg. (NOT USED)

MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)

DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.

DM45 = x coord. DCRAD-OWALL at 45 deg.

DO45 = x coord. DCRAD at 45 deg.

ARRAY PARAMETER ASSY DELETED.

SET PARAMETER DIMENSIONS ON ASSY TYPE=TABL DIMENSIONS= 101 1 1

SET PARAMETER DIMENSIONS ON FUEL TYPE=TABL DIMENSIONS= 101 1 1

PARAMETER FVOLUME = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCCELL = .1167500

ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .1167500

PARAMETER GY22 = .6846165

PARAMETER GX23 = .1267500

PARAMETER GY23 = .6828358

PARAMETER GX24 = .3602500
 PARAMETER GY24 = .5937594
 PARAMETER GX25 = .3697500
 PARAMETER GY25 = .5878905

MI45=MIRAD/SQRT(2.0)
 MO45=(MIRAD+MWALL)/SQRT(2.0)

PARAMETER DI45 = .4910857
 PARAMETER DM45 = .5052278
 PARAMETER DO45 = .5759385

Define Transient Time parameters based upon the following:
 Note: 1 year = 3.15576e7 seconds
 TM_START = start time (sec)
 TMI* = time increment for solution (sec)
 TME* = start and stop for time do-loops (sec)
 TMTMAX = time of maximum cladding temperature

PARAMETER TM_START = 31.55760
 PARAMETER TM10 = 3155760.
 PARAMETER TM11 = .3155760E+08
 PARAMETER TM110 = .3155760E+09
 PARAMETER TM1100 = .3155760E+10
 PARAMETER TM11000 = .3155760E+11
 PARAMETER TME0 = .2840187E+08
 PARAMETER TME1 = .3155763E+08
 PARAMETER TME9 = .2840184E+09
 PARAMETER TME10 = .3155760E+09
 PARAMETER TME50 = .1577880E+10
 PARAMETER TME90 = .2840184E+10
 PARAMETER TME100 = .3155760E+10
 PARAMETER TME1000 = .3155760E+11

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:05:16 JUN 11, 1995 CP= 1.810
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE 1 IS PLANE55 2-D THERMAL SOLID
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP

TWO-DIMENSIONAL MODEL

ELEMENT TYPE 2 IS SOLID70 3-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 7 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 16 IS SHELL57 THERMAL SHELL
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 17 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 18 IS MATRIX50 SUBSTRUCTURE MATRIX
KEYOPT(1-12)= 1 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 19 IS LINK31 RADIATION LINK
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 27 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

File props01.dat describes material properties
and thier reference numbers

READ IN MATERIAL PROPERTY LIBRARY FROM FILE= props01.dat

/INPUT FILE= props01.dat LINE= 0

** ANSYS 5.0 MPC MATERIAL PROPERTY TABLES **

** Filename: props01.dat **
** Compiled by R. Bahney III on 1-30-95 **

NUMBER	MATERIAL	DESCRIPTION
1	Stainless Steel 316	Basket Structural Support
2	Incaloy 825	Inner Container (resistant)
3	A516 Mild Steel	Outer Container (allowance)
4	UO2 Pellet	SNF Uranium Oxide Pellet
5	Zircaloy 4	SNF Cladding
6	Oxidation Layer	Stably Oxidized Zircaloy Surface
7	Helium	Canister Fill Gas
8	Air	Alternate Fill Gas
9	Nitrogen	Alternate Fill Gas
10	Argon	Alternate Fill Gas
11	Aluminum 6063	Thermal Conductor
12	Copper	Alternate Thermal Conductor

13 Aluminum-Boron Aluminum Boron Criticality Matl

```
*****
** Density:      DENS (kg/m^3)      **
** Emissivity    EMIS                **
** Conductivity: KXX (W/m/K)        **
** Specific Heat: C (J/kg/K)        **
*****
```

Define densities for all materials except gases

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
SLOC= 1 8000.000

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
SLOC= 1 8137.900

PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
SLOC= 1 8131.000

PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
SLOC= 1 10970.00

PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 6 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 11 NUM. POINTS= 1
SLOC= 1 2690.000

PROPERTY TABLE DENS MAT= 12 NUM. POINTS= 1
SLOC= 1 8933.000

PROPERTY TABLE DENS MAT= 13 NUM. POINTS= 1
SLOC= 1 2693.000

Define emissivities for all materials except gases

PROPERTY TABLE EMIS MAT= 1 NUM. POINTS= 1
SLOC= 1 .6000000

PROPERTY TABLE EMIS MAT= 2 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 3 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 4 NUM. POINTS= 1
SLOC= 1 .7900000

PROPERTY TABLE EMIS MAT= 5 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 6 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 11 NUM. POINTS= 1
SLOC= 1 .7000000E-01

PROPERTY TABLE EMIS MAT= 12 NUM. POINTS= 1
SLOC= 1 .5000000

PROPERTY TABLE EMIS MAT= 13 NUM. POINTS= 1

SLOC= 1 .7000000E-01

Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15

PROPERTY TABLE C MAT= 4 NUM. POINTS= 1
SLOC= 1 247.0000PROPERTY TABLE C MAT= 5 NUM. POINTS= 1
SLOC= 1 330.0000PROPERTY TABLE C MAT= 6 NUM. POINTS= 1
SLOC= 1 330.0000PROPERTY TABLE C MAT= 7 NUM. POINTS= 1
SLOC= 1 5193.000PROPERTY TABLE C MAT= 11 NUM. POINTS= 1
SLOC= 1 900.0000

Define K and C for materials 1, 3

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 21.11000 37.78000 65.56000
93.33000 121.1100 148.8900*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 176.6700 204.4400 232.2200
260.0000 287.7800 315.5600*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 343.3300 371.1100 398.8900
426.6700 454.4400 482.2200*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
SLOC= 19 510.0000 537.7800 565.5600
593.3300 621.1100 648.8900*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
SLOC= 25 676.6700 704.4400 732.2200
760.0000 787.7800 815.5600PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 6
SLOC= 1 13.33000 13.67000 14.19000 14.54000
15.06000 15.58000PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 12
SLOC= 7 15.92000 16.44000 16.96000 17.31000
17.83000 18.17000PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 18
SLOC= 13 18.52000 19.04000 19.38000 19.90000
20.25000 20.77000PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 24
SLOC= 19 21.11000 21.46000 21.98000 22.33000
22.67000 23.02000PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 30
SLOC= 25 23.54000 23.88000 24.23000 24.58000
24.92000 25.27000PROPERTY TABLE C MAT= 1 NUM. POINTS= 6
SLOC= 1 481.6800 486.9200 498.0900 499.3800
509.9800 520.2900PROPERTY TABLE C MAT= 1 NUM. POINTS= 12
SLOC= 7 521.0700 527.3800 536.9200 537.3400
543.0200 543.3100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 18
 SLOC= 13 546.9100 552.1400 552.2600 557.2200
 557.2500 565.1100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 24
 SLOC= 19 565.0100 564.9100 572.3500 572.1400
 574.9200 574.6800

PROPERTY TABLE C MAT= 1 NUM. POINTS= 30
 SLOC= 25 581.6400 581.3000 583.8600 586.3600
 585.9600 588.3900

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 6
 SLOC= 1 40.84000 41.36000 41.88000 42.23000
 42.23000 42.23000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 12
 SLOC= 7 42.06000 41.88000 41.36000 41.02000
 40.50000 39.98000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 18
 SLOC= 13 39.29000 38.77000 38.08000 37.56000
 36.69000 36.17000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 24
 SLOC= 19 35.48000 34.61000 33.92000 33.23000
 32.36000 31.50000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 30
 SLOC= 25 30.29000 28.90000 27.35000 26.48000
 26.13000 26.13000

PROPERTY TABLE C MAT= 3 NUM. POINTS= 6
 SLOC= 1 428.7200 444.9500 460.9400 476.8700
 486.0800 495.6600

PROPERTY TABLE C MAT= 3 NUM. POINTS= 12
 SLOC= 7 506.0900 517.0700 525.6400 536.9900
 543.6300 550.6200

PROPERTY TABLE C MAT= 3 NUM. POINTS= 18
 SLOC= 13 562.2100 577.3200 589.1000 600.5700
 611.3500 629.0900

PROPERTY TABLE C MAT= 3 NUM. POINTS= 24
 SLOC= 19 645.3200 665.1200 682.0700 694.5200
 724.0700 761.9500

PROPERTY TABLE C MAT= 3 NUM. POINTS= 30
 SLOC= 25 806.3100 888.6000 1095.040 1638.780
 808.6800 736.9000

Define K for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800 565.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***

SLOC= 19	593.3300	621.1100	648.8900
	676.6700	704.4400	732.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 27 ***

SLOC= 25	760.0000	787.7800	815.5600
----------	----------	----------	----------

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 6	
SLOC= 1	12.29000	12.63000	13.15000
	14.02000	14.54000	13.67000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 12	
SLOC= 7	14.88000	15.40000	15.75000
	16.61000	16.96000	16.10000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 18	
SLOC= 13	17.31000	17.65000	18.00000
	18.86000	19.21000	18.52000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 24	
SLOC= 19	19.73000	20.08000	20.42000
	21.46000	21.98000	20.94000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 27	
SLOC= 25	22.33000	23.02000	23.54000

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC= 1	93.33000	121.1100	148.8900
	176.6700	204.4400	232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***

SLOC= 7	260.0000	287.7800	315.5600
	343.3300	371.1100	398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 17 ***

SLOC= 13	426.6700	454.4400	482.2200
	510.0000	537.7800	

PROPERTY TABLE C	MAT= 2	NUM. POINTS= 6	
SLOC= 1	460.6900	477.4200	501.0200
	498.1200	520.4500	504.6500

PROPERTY TABLE C	MAT= 2	NUM. POINTS= 12	
SLOC= 7	536.8800	559.8500	576.8300
	581.6800	598.2000	576.2100

PROPERTY TABLE C	MAT= 2	NUM. POINTS= 17	
SLOC= 13	619.5800	636.7600	654.2000
	696.2900		678.2500

Define K for materials 4, 5, 6

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC= 1	.0000000E+00	10.00000	20.00000
	30.00000	40.00000	50.00000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***

SLOC= 7	60.00000	70.00000	80.00000
	90.00000	100.0000	110.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***

SLOC= 13	120.0000	130.0000	140.0000
	150.0000	160.0000	170.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 180.0000 190.0000 200.0000
 210.0000 220.0000 230.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
 SLOC= 25 240.0000 250.0000 260.0000
 270.0000 280.0000 290.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 36 ***
 SLOC= 31 300.0000 310.0000 320.0000
 330.0000 340.0000 350.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 42 ***
 SLOC= 37 360.0000 370.0000 380.0000
 390.0000 400.0000 410.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 48 ***
 SLOC= 43 420.0000 430.0000 440.0000
 450.0000 460.0000 470.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 50 ***
 SLOC= 48 480.0000 490.0000 500.0000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 6
 SLOC= 1 8.720000 8.540000 8.360000 8.190000
 8.030000 7.870000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 12
 SLOC= 7 7.720000 7.580000 7.440000 7.310000
 7.180000 7.050000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 18
 SLOC= 13 6.930000 6.820000 6.700000 6.600000
 6.490000 6.390000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 24
 SLOC= 19 6.290000 6.190000 6.100000 6.010000
 5.920000 5.840000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 30
 SLOC= 25 5.760000 5.680000 5.600000 5.520000
 5.450000 5.380000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 36
 SLOC= 31 5.310000 5.240000 5.180000 5.110000
 5.050000 4.990000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 42
 SLOC= 37 4.930000 4.870000 4.810000 4.760000
 4.700000 4.650000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 48
 SLOC= 43 4.600000 4.550000 4.500000 4.450000
 4.400000 4.350000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 50
 SLOC= 48 4.310000 4.270000 4.220000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 6
 SLOC= 1 12.29000 12.44000 12.58000 12.72000
 12.87000 13.01000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 12
 SLOC= 7 13.15000 13.28000 13.42000 13.55000
 13.69000 13.82000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 18
 SLOC= 13 13.95000 14.08000 14.21000 14.34000
 14.46000 14.59000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 24
 SLOC= 19 14.72000 14.84000 14.96000 15.09000
 15.21000 15.33000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 30
 SLOC= 25 15.45000 15.57000 15.69000 15.81000
 15.93000 16.05000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 36
 SLOC= 31 16.17000 16.29000 16.40000 16.52000
 16.64000 16.76000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 42
 SLOC= 37 16.88000 16.99000 17.11000 17.23000
 17.35000 17.46000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 48
 SLOC= 43 17.58000 17.70000 17.82000 17.94000
 18.06000 18.18000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 50
 SLOC= 48 18.30000 18.42000 18.54000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 6
 SLOC= 1 1.940000 1.940000 1.940000 1.940000
 1.940000 1.940000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 12
 SLOC= 7 1.940000 1.950000 1.950000 1.950000
 1.950000 1.950000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 18
 SLOC= 13 1.950000 1.950000 1.960000 1.960000
 1.960000 1.960000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 24
 SLOC= 19 1.960000 1.970000 1.970000 1.970000
 1.970000 1.980000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 30
 SLOC= 25 1.980000 1.980000 1.980000 1.990000
 1.990000 1.990000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 36
 SLOC= 31 2.000000 2.000000 2.000000 2.010000
 2.010000 2.010000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 42
 SLOC= 37 2.020000 2.020000 2.020000 2.030000
 2.030000 2.030000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.040000 2.050000
 2.050000 2.060000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 50
 SLOC= 48 2.060000 2.060000 2.070000

Define p, K, C for materials 7, 8, 9, -10

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -13.15000 6.850000 26.85000
 76.85000 126.8500 176.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 226.8500 276.8500 326.8500
 376.8500 426.8500 476.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 15 ***
 SLOC= 13 526.8500 626.8500 726.8500

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1875000 .1750000 .1625000 .1422000
 .1219000 .1097000

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 12
 SLOC= 7 .9750000E-01 .9060000E-01 .8360000E-01 .7670000E-01
 .6970000E-01 .6620000E-01

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 15
 SLOC= 13 .6270000E-01 .5580000E-01 .4880000E-01

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1370000 .1450000 .1520000 .1700000
 .1870000 .2040000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 12
 SLOC= 7 .2200000 .2360000 .2520000 .2640000
 .2780000 .2910000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 15
 SLOC= 13 .3040000 .3300000 .3540000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 6
 SLOC= 1 1.348000 1.254700 1.161400 .9950000
 .8711000 .7740000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 12
 SLOC= 7 .6964000 .6329000 .5804000 .5356000
 .4975000 .4643000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 15
 SLOC= 13 .4354000 .3868000 .3482000

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2500000E-01 .2600000E-01 .3000000E-01
 .3400000E-01 .3700000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12
 SLOC= 7 .4100000E-01 .4400000E-01 .4700000E-01 .5000000E-01
 .5200000E-01 .5500000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 15
 SLOC= 13 .5700000E-01 .6200000E-01 .6700000E-01

PROPERTY TABLE C MAT= 8 NUM. POINTS= 6
 SLOC= 1 1006.200 1006.600 1007.000 1009.000
 1014.000 1021.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 12
 SLOC= 7 1030.000 1040.000 1051.000 1063.000
 1075.000 1087.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 15
 SLOC= 13 1099.000 1121.000 1141.000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 6
 SLOC= 4 1.303700 1.213500 1.123300 .9625000
 .8425000 .7485000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12
 SLOC= 7 .6739000 .6124000 .5615000 .5214000
 .4812000 .4512000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 15
 SLOC= 13 .4211000 .3743000 .3368000

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2400000E-01 .2600000E-01 .2900000E-01
 .3300000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12
 SLOC= 7 .3900000E-01 .4200000E-01 .4500000E-01 .4700000E-01
 .5000000E-01 .5200000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 15
 SLOC= 13 .5500000E-01 .6000000E-01 .6500000E-01

PROPERTY TABLE C MAT= 9 NUM. POINTS= 6
 SLOC= 1 1041.800 1041.400 1041.000 1042.000
 1045.000 1050.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 12
 SLOC= 7 1056.000 1065.000 1075.000 1086.500
 1098.000 1159.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 15
 SLOC= 13 1220.000 1146.000 1167.000

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 6
 SLOC= 1 .1700000E-01 .1700000E-01 .1800000E-01 .2100000E-01
 .2300000E-01 .2500000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12
 SLOC= 7 .2700000E-01 .2800000E-01 .3000000E-01 .3200000E-01
 .3400000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 15
 SLOC= 13 .3700000E-01 .4100000E-01 .4400000E-01

Define K and C for material 12

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -73.15000 26.85000 126.8500
 326.8500 526.8500 726.8500

PROPERTY TABLE KXX MAT= 12 NUM. POINTS= 6
 SLOC= 1 413.0000 401.0000 393.0000 379.0000
 366.0000 352.0000

PROPERTY TABLE C MAT= 12 NUM. POINTS= 6
 SLOC= 1 356.0000 385.0000 397.0000 417.0000
 433.0000 451.0000

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***
 SLOC= 1 23.00000 50.00000 100.0000
 150.0000 200.0000

PROPERTY TABLE KXX MAT= 13 NUM. POINTS= 5
 SLOC= 1 182.5600 190.1700 199.2200 202.9100
 203.7200

PROPERTY TABLE C MAT= 13 NUM. POINTS= 5
 SLOC= 1 868.0000 903.0000 946.0000 976.0000
 998.0000

 ** End of Material Property List **

 Read in single assembly heat loads

Calculate the volumetric heat generation
(Assembly time is in years, FUEL is in seconds)

```

/INPUT FILE= snf1048.dat LINE=      0
*****
** History of SNF Assembly Heat Generation Rates          **
** Output of PHIA, SCSI: B00000000-01717-1200-3000X Rev.00B **
**                                                         **
** Executable File Name:  PHIA00B.EXE                      **
** Output File Name:     snf1048.dat                      **
** Execution Date:       02/24/95                         **
** Start Age (years):    10.00                           **
** Decay Period (years): 10000                           **
** Enrichment (percent): 4.20                             **
** Burnup (Mwd/MTU):     48086                           **
** Assembly Type:        PWR                              **
** SNF U Mass (MTU/assy): 0.464                          **
**                                                         **
** ASSY(1) is the SNF assembly heat in Watts.             **
** ASSY(0) is the time post emplacement in years.         **
*****

```

PARAMETER ASSY(1,1) =	850.0100 848.4600	849.6200 848.0800	849.2300	848.8500
PARAMETER ASSY(7,1) =	847.6900 846.1600	847.3100 844.2600	846.9300	846.5400
PARAMETER ASSY(13,1) =	842.3700 834.9500	840.5000 833.1300	838.6300	836.7900
PARAMETER ASSY(19,1) =	831.3200 824.2000	829.5200 822.4500	827.7400	825.9600
PARAMETER ASSY(25,1) =	820.7200 813.8800	818.9900 799.0100	817.2800	815.5700
PARAMETER ASSY(31,1) =	785.0300 738.5700	772.2000 729.5500	760.0600	749.0400
PARAMETER ASSY(37,1) =	720.9500 683.8600	710.2700 676.0300	700.0700	691.8000
PARAMETER ASSY(43,1) =	668.5000 642.5500	661.1300 580.1800	654.0400	648.1900
PARAMETER ASSY(49,1) =	529.8600 380.7000	484.5200 352.1900	445.3600	410.5100
PARAMETER ASSY(55,1) =	327.7800 252.6500	305.8800 238.3100	286.2200	268.5700
PARAMETER ASSY(61,1) =	225.3500 185.0400	213.6600 130.6600	203.8500	193.7500
PARAMETER ASSY(67,1) =	105.0700 66.61000	90.10000 61.74000	80.32000	72.66000
PARAMETER ASSY(73,1) =	57.58000 44.98000	53.71000 42.50000	50.41000	47.54000
PARAMETER ASSY(79,1) =	40.31000 33.52000	38.35000 23.16000	36.59000	35.00000
PARAMETER ASSY(85,1) =	18.32000 12.84000	15.77000 12.37000	14.37000	13.53000
PARAMETER ASSY(91,1) =	11.96000 10.32000	11.47000 9.970000	11.04000	10.66000

PARAMETER ASSY(97,1) =	9.650000 8.610000	9.360000	9.090000	8.840000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01 .1000000	.7000000E-01 .1500000	.8000000E-01	.9000000E-01
PARAMETER ASSY(13,0) =	.2000000 .4000000	.2500000 .4500000	.3000000	.3500000
PARAMETER ASSY(19,0) =	.5000000 .7000000	.5500000 .7500000	.6000000	.6500000
PARAMETER ASSY(25,0) =	.8000000 1.000000	.8500000 1.500000	.9000000	.9500000
PARAMETER ASSY(31,0) =	2.000000 4.000000	2.500000 4.500000	3.000000	3.500000
PARAMETER ASSY(37,0) =	5.000000 7.000000	5.500000 7.500000	6.000000	6.500000
PARAMETER ASSY(43,0) =	8.000000 10.00000	8.500000 15.00000	9.000000	9.500000
PARAMETER ASSY(49,0) =	20.00000 40.00000	25.00000 45.00000	30.00000	35.00000
PARAMETER ASSY(55,0) =	50.00000 70.00000	55.00000 75.00000	60.00000	65.00000
PARAMETER ASSY(61,0) =	80.00000 100.0000	85.00000 150.0000	90.00000	95.00000
PARAMETER ASSY(67,0) =	200.0000 400.0000	250.0000 450.0000	300.0000	350.0000
PARAMETER ASSY(73,0) =	500.0000 700.0000	550.0000 750.0000	600.0000	650.0000
PARAMETER ASSY(79,0) =	800.0000 1000.000	850.0000 1500.000	900.0000	950.0000
PARAMETER ASSY(85,0) =	2000.000 4000.000	2500.000 4500.000	3000.000	3500.000
PARAMETER ASSY(91,0) =	5000.000 7000.000	5500.000 7500.000	6000.000	6500.000
PARAMETER ASSY(97,0) =	8000.000 10000.00	8500.000	9000.000	9500.000

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)
INPUT MATRIX= ASSY(1,0)
INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000

FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN

FUEL(1) = COPY ASSY(1)

SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000

VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***

SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1

SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1

SLOC= 1 274.0000

Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***

SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***

SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1

SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2

SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Construct geometry for Disposal Container

Define center and axis keypoints for waste package

Also, create placeholder keypoints and lines

(K's 1,2,3,4,5,6,7,8)

(L's 1,2,3,4)

KEYPOINT	1	X,Y,Z=	.000000E+00	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	2	X,Y,Z=	.000000E+00	.000000E+00	1.00000	IN CSYS= 0
KEYPOINT	3	X,Y,Z=	.000000E+00	.000000E+00	1.30000	IN CSYS= 0
KEYPOINT	4	X,Y,Z=	.000000E+00	.000000E+00	1.40000	IN CSYS= 0
KEYPOINT	5	X,Y,Z=	.000000E+00	.000000E+00	1.50000	IN CSYS= 0
KEYPOINT	6	X,Y,Z=	.000000E+00	.000000E+00	1.60000	IN CSYS= 0
KEYPOINT	7	X,Y,Z=	.000000E+00	.000000E+00	1.70000	IN CSYS= 0
KEYPOINT	8	X,Y,Z=	.000000E+00	.000000E+00	1.80000	IN CSYS= 0

LINE CONNECTS KEYPOINTS 3 4
 LINE NO.= 1 KP1= 3 TAN1= .0000 .0000 -1.0000
 KP2= 4 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 4 5
 LINE NO.= 2 KP1= 4 TAN1= .0000 .0000 -1.0000
 KP2= 5 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 5 6
 LINE NO.= 3 KP1= 5 TAN1= .0000 .0000 -1.0000
 KP2= 6 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 6 7
 LINE NO.= 4 KP1= 6 TAN1= .0000 .0000 -1.0000
 KP2= 7 TAN2= .0000 .0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT	9	X,Y,Z=	.000000E+00	-.814500	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.814500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.814500	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.714500	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.714500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.714500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 10 13
 LINE NO.= 5 KP1= 10 TAN1= 1.0000 .0000 .0000
 KP2= 13 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 6 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 7 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 8 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .71450

LINE NO.= 9 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT 15 X,Y,Z= .000000E+00 .694500 .000000E+00 IN CSYS= 0
 KEYPOINT 16 X,Y,Z= .116750 .684616 .000000E+00 IN CSYS= 0
 KEYPOINT 17 X,Y,Z= .126750 .682836 .000000E+00 IN CSYS= 0
 KEYPOINT 18 X,Y,Z= .360250 .593759 .000000E+00 IN CSYS= 0
 KEYPOINT 19 X,Y,Z= .369750 .587890 .000000E+00 IN CSYS= 0
 KEYPOINT 20 X,Y,Z= .587890 .369750 .000000E+00 IN CSYS= 0
 KEYPOINT 21 X,Y,Z= .593759 .360250 .000000E+00 IN CSYS= 0
 KEYPOINT 22 X,Y,Z= .682836 .126750 .000000E+00 IN CSYS= 0
 KEYPOINT 23 X,Y,Z= .684616 .116750 .000000E+00 IN CSYS= 0
 KEYPOINT 24 X,Y,Z= .694500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 25 X,Y,Z= .684616 -.116750 .000000E+00 IN CSYS= 0
 KEYPOINT 26 X,Y,Z= .682836 -.126750 .000000E+00 IN CSYS= 0
 KEYPOINT 27 X,Y,Z= .593759 -.360250 .000000E+00 IN CSYS= 0
 KEYPOINT 28 X,Y,Z= .587890 -.369750 .000000E+00 IN CSYS= 0
 KEYPOINT 29 X,Y,Z= .369750 -.587890 .000000E+00 IN CSYS= 0
 KEYPOINT 30 X,Y,Z= .360250 -.593759 .000000E+00 IN CSYS= 0
 KEYPOINT 31 X,Y,Z= .126750 -.682836 .000000E+00 IN CSYS= 0
 KEYPOINT 32 X,Y,Z= .116750 -.684616 .000000E+00 IN CSYS= 0
 KEYPOINT 33 X,Y,Z= .000000E+00 -.694500 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000

KP2=	15	TAN2=	.0000	-1.0000	.0000
ARC BETWEEN KEYPOINTS 16 AND 15 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	13	KP1=	16	TAN1=	.9858
		KP2=	15	TAN2=	-1.0000
					.0000
					.0000
ARC BETWEEN KEYPOINTS 17 AND 16 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	14	KP1=	17	TAN1=	.9832
		KP2=	16	TAN2=	-.9858
					.1681
					.0000
ARC BETWEEN KEYPOINTS 18 AND 17 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	15	KP1=	18	TAN1=	.8549
		KP2=	17	TAN2=	-.9832
					.1825
					.0000
ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	16	KP1=	19	TAN1=	.8465
		KP2=	18	TAN2=	-.8549
					.5187
					.0000
ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	17	KP1=	20	TAN1=	.5324
		KP2=	19	TAN2=	-.8465
					.5324
					.0000
ARC BETWEEN KEYPOINTS 21 AND 20 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	18	KP1=	21	TAN1=	.5187
		KP2=	20	TAN2=	-.5324
					.8465
					.0000
ARC BETWEEN KEYPOINTS 22 AND 21 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	19	KP1=	22	TAN1=	.1825
		KP2=	21	TAN2=	-.5187
					.8549
					.0000
ARC BETWEEN KEYPOINTS 23 AND 22 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	20	KP1=	23	TAN1=	.1681
		KP2=	22	TAN2=	-.1825
					.9832
					.0000
ARC BETWEEN KEYPOINTS 24 AND 23 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	21	KP1=	24	TAN1=	.0000
		KP2=	23	TAN2=	-.1681
					-1.0000
					.0000
ARC BETWEEN KEYPOINTS 25 AND 24 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	22	KP1=	25	TAN1=	-.1681
		KP2=	24	TAN2=	.0000
					1.0000
					.0000
ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	23	KP1=	26	TAN1=	-.1825
		KP2=	25	TAN2=	.1681
					.9832
					.0000
ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	24	KP1=	27	TAN1=	-.5187
		KP2=	26	TAN2=	.1825
					.9832
					.0000
ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	25	KP1=	28	TAN1=	-.5324
		KP2=	27	TAN2=	.5187
					.8549
					.0000
ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	26	KP1=	29	TAN1=	-.8465
					-.5324
					.0000

KP2= 28 TAN2= .5324 .8465 .0000
 ARC BETWEEN KEYPOINTS 30 AND 29 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 27 KP1= 30 TAN1= -.8549 -.5187 .0000
 KP2= 29 TAN2= .8465 .5324 .0000
 ARC BETWEEN KEYPOINTS 31 AND 30 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 28 KP1= 31 TAN1= -.9832 -.1825 .0000
 KP2= 30 TAN2= .8549 .5187 .0000
 ARC BETWEEN KEYPOINTS 32 AND 31 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 29 KP1= 32 TAN1= -.9858 -.1681 .0000
 KP2= 31 TAN2= .9832 .1825 .0000
 ARC BETWEEN KEYPOINTS 33 AND 32 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 30 KP1= 33 TAN1= -1.0000 .0000 .0000
 KP2= 32 TAN2= .9858 .1681 .0000
 LINE CONNECTS KEYPOINTS 33 12
 LINE NO.= 31 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000
 LINE CONNECTS KEYPOINTS 24 13
 LINE NO.= 32 KP1= 24 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 21 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 9 TO 9 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 9)

AREA NUMBER = 3

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 22 TO 31 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 8 TO 8 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 8)

AREA NUMBER = 4

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 32 STEP 1

32 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides
(K's 34,35,36,37)
(L's 33,34,35,36,37,38,39,40,41,42)
(A's 5,6,7,8,9,10)

top guide

KEYPOINT 34 X,Y,Z= .360250 .360250 .000000E+00 IN CSYS= 0

KEYPOINT 35 X,Y,Z= .369750 .369750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 19 35
LINE NO.= 33 KP1= 19 TAN1= .0000 1.0000 .0000
KP2= 35 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 35 20
LINE NO.= 34 KP1= 35 TAN1= -1.0000 .0000 .0000
KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 21 34
LINE NO.= 35 KP1= 21 TAN1= 1.0000 .0000 .0000
KP2= 34 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 18
LINE NO.= 36 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 18 TAN2= .0000 1.0000 .0000

bottom guide

KEYPOINT 36 X,Y,Z= .369750 -.369750 .000000E+00 IN CSYS= 0

KEYPOINT 37 X,Y,Z= .360250 -.360250 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 28 36
LINE NO.= 37 KP1= 28 TAN1= 1.0000 .0000 .0000
KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 36 29
LINE NO.= 38 KP1= 36 TAN1= .0000 1.0000 .0000
KP2= 29 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 37
LINE NO.= 39 KP1= 30 TAN1= .0000 -1.0000 .0000
KP2= 37 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 37 27
LINE NO.= 40 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 27 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 35
LINE NO.= 41 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 35 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 37 36
LINE NO.= 42 KP1= 37 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES

LINE LIST = 17 33 34
(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 37 38
(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 6
Guide steel

DEFINE AREA BY LIST OF LINES

LINE LIST = 16 33 41 36
(TRAVERSED IN SAME DIRECTION AS LINE 16)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES

LINE LIST = 18 35 41 34
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 37 42 40
(TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 39 42 38
(TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 10

Define thermal shunts

(K's 38,39,40,41,42,43,44,45,46,47,48,49,50)

(51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)

(L's 43,44,45,46,47,48,49)

(50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)

(67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)

(84,85,86,87,88,89,90)

(A's 11 - 27)

top horizontal thermal shunt

KEYPOINT	38	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.000000E+00	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.116750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.126750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	45	X,Y,Z=	.360250	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	46	X,Y,Z=	.593750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	47	X,Y,Z=	.593750	.126750	.000000E+00	IN CSYS= 0
bottom horizontal thermal shunt						
KEYPOINT	48	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.000000E+00	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.116750	-.126750	.000000E+00	IN CSYS= 0

KEYPOINT	52	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	53	X,Y,Z=	.126750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.360250	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	56	X,Y,Z=	.593750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.593750	-.126750	.000000E+00	IN CSYS= 0
		right vertical thermal shunt				
KEYPOINT	58	X,Y,Z=	.116750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.126750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	60	X,Y,Z=	.116750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.126750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.116750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.126750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.116750	-.593750	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.126750	-.593750	.000000E+00	IN CSYS= 0
		Lines; shunt widths, top, bottom, then vertical: (43-60)				

LINE CONNECTS KEYPOINTS	38	39			
LINE NO.= 43	KP1= 38	TAN1=	.0000	-1.0000	.0000
	KP2= 39	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	40	41			
LINE NO.= 44	KP1= 40	TAN1=	.0000	-1.0000	.0000
	KP2= 41	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	42	43			
LINE NO.= 45	KP1= 42	TAN1=	.0000	-1.0000	.0000
	KP2= 43	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	44	45			
LINE NO.= 46	KP1= 44	TAN1=	.0000	-1.0000	.0000
	KP2= 45	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	46	47			
LINE NO.= 47	KP1= 46	TAN1=	.0000	-1.0000	.0000
	KP2= 47	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	48	49			
LINE NO.= 48	KP1= 48	TAN1=	.0000	1.0000	.0000
	KP2= 49	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	50	51			
LINE NO.= 49	KP1= 50	TAN1=	.0000	1.0000	.0000
	KP2= 51	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	52	53			
LINE NO.= 50	KP1= 52	TAN1=	.0000	1.0000	.0000
	KP2= 53	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	54	55			
LINE NO.= 51	KP1= 54	TAN1=	.0000	1.0000	.0000
	KP2= 55	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	56	57			
LINE NO.= 52	KP1= 56	TAN1=	.0000	1.0000	.0000
	KP2= 57	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	58	59			
LINE NO.= 53	KP1= 58	TAN1= -1.0000	.0000	.0000	
	KP2= 59	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	60	61			
LINE NO.= 54	KP1= 60	TAN1= -1.0000	.0000	.0000	
	KP2= 61	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	41	43			
LINE NO.= 55	KP1= 41	TAN1= -1.0000	.0000	.0000	
	KP2= 43	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	40	42			
LINE NO.= 56	KP1= 40	TAN1= -1.0000	.0000	.0000	
	KP2= 42	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	50	52			
LINE NO.= 57	KP1= 50	TAN1= -1.0000	.0000	.0000	
	KP2= 52	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	51	53			
LINE NO.= 58	KP1= 51	TAN1= -1.0000	.0000	.0000	
	KP2= 53	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	62	63			
LINE NO.= 59	KP1= 62	TAN1= -1.0000	.0000	.0000	
	KP2= 63	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	64	65			
LINE NO.= 60	KP1= 64	TAN1= -1.0000	.0000	.0000	
	KP2= 65	TAN2= 1.0000	.0000	.0000	

Lines; shunt edges, top, bottom, then vertical: (61-90)

LINE CONNECTS KEYPOINTS	39	41			
LINE NO.= 61	KP1= 39	TAN1= -1.0000	.0000	.0000	
	KP2= 41	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	40	38			
LINE NO.= 62	KP1= 40	TAN1= 1.0000	.0000	.0000	
	KP2= 38	TAN2= -1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	43	45			
LINE NO.= 63	KP1= 43	TAN1= -1.0000	.0000	.0000	
	KP2= 45	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	44	42			
LINE NO.= 64	KP1= 44	TAN1= 1.0000	.0000	.0000	
	KP2= 42	TAN2= -1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	45	47			
LINE NO.= 65	KP1= 45	TAN1= -1.0000	.0000	.0000	
	KP2= 47	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	46	44			
LINE NO.= 66	KP1= 46	TAN1= 1.0000	.0000	.0000	
	KP2= 44	TAN2= -1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	47	22			
LINE NO.= 67	KP1= 47	TAN1= -1.0000	.0000	.0000	
	KP2= 22	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	23	46			
LINE NO.= 68	KP1= 23	TAN1= 1.0000	.0000	.0000	
	KP2= 46	TAN2= -1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	48	50			
LINE NO.= 69	KP1= 48	TAN1= -1.0000	.0000	.0000	
	KP2= 50	TAN2= 1.0000	.0000	.0000	

LINE CONNECTS KEYPOINTS	51	49			
LINE NO.= 70 KP1=	51	TAN1=	1.0000	.0000	.0000
KP2=	49	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	52	54			
LINE NO.= 71 KP1=	52	TAN1=	-1.0000	.0000	.0000
KP2=	54	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	55	53			
LINE NO.= 72 KP1=	55	TAN1=	1.0000	.0000	.0000
KP2=	53	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	54	56			
LINE NO.= 73 KP1=	54	TAN1=	-1.0000	.0000	.0000
KP2=	56	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	57	55			
LINE NO.= 74 KP1=	57	TAN1=	1.0000	.0000	.0000
KP2=	55	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	56	25			
LINE NO.= 75 KP1=	56	TAN1=	-1.0000	.0000	.0000
KP2=	25	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	26	57			
LINE NO.= 76 KP1=	26	TAN1=	1.0000	.0000	.0000
KP2=	57	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	58	16			
LINE NO.= 77 KP1=	58	TAN1=	.0000	-1.0000	.0000
KP2=	16	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	17	59			
LINE NO.= 78 KP1=	17	TAN1=	.0000	1.0000	.0000
KP2=	59	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	60	58			
LINE NO.= 79 KP1=	60	TAN1=	.0000	-1.0000	.0000
KP2=	58	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	59	61			
LINE NO.= 80 KP1=	59	TAN1=	.0000	1.0000	.0000
KP2=	61	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	41	60			
LINE NO.= 81 KP1=	41	TAN1=	.0000	-1.0000	.0000
KP2=	60	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	61	43			
LINE NO.= 82 KP1=	61	TAN1=	.0000	1.0000	.0000
KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	50	40			
LINE NO.= 83 KP1=	50	TAN1=	.0000	-1.0000	.0000
KP2=	40	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	42	52			
LINE NO.= 84 KP1=	42	TAN1=	.0000	1.0000	.0000
KP2=	52	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	62	51			
LINE NO.= 85 KP1=	62	TAN1=	.0000	-1.0000	.0000
KP2=	51	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS	53	63			
LINE NO.= 86 KP1=	53	TAN1=	.0000	1.0000	.0000
KP2=	63	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	64	62			
LINE NO.= 87 KP1=	64	TAN1=	.0000	-1.0000	.0000

```

      KP2=    62 TAN2=    .0000    1.0000    .0000
LINE CONNECTS KEYPOINTS    63    65
LINE NO.=   88 KP1=    63 TAN1=    .0000    1.0000    .0000
      KP2=    65 TAN2=    .0000   -1.0000    .0000

LINE CONNECTS KEYPOINTS    32    64
LINE NO.=   89 KP1=    32 TAN1=    .0000   -1.0000    .0000
      KP2=    64 TAN2=    .0000    1.0000    .0000

LINE CONNECTS KEYPOINTS    65    31
LINE NO.=   90 KP1=    65 TAN1=    .0000    1.0000    .0000
      KP2=    31 TAN2=    .0000   -1.0000    .0000

```

define areas for thermal shunts

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   43   61   44   62
(TRAVERSED IN SAME DIRECTION AS LINE   43)

```

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   44   55   45   56
(TRAVERSED IN SAME DIRECTION AS LINE   44)

```

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   45   63   46   64
(TRAVERSED IN SAME DIRECTION AS LINE   45)

```

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   46   65   47   66
(TRAVERSED IN SAME DIRECTION AS LINE   46)

```

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   47   67   20   68
(TRAVERSED IN SAME DIRECTION AS LINE   47)

```

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   48   69   49   70
(TRAVERSED IN SAME DIRECTION AS LINE   48)

```

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   49   57   50   58
(TRAVERSED IN SAME DIRECTION AS LINE   49)

```

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   50   71   51   72
(TRAVERSED IN SAME DIRECTION AS LINE   50)

```

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES

```

LINE LIST =   51   73   52   74
(TRAVERSED IN SAME DIRECTION AS LINE   51)

```

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES

LINE LIST = 52 75 23 76
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES

LINE LIST = 14 77 53 78
(TRAVERSED IN SAME DIRECTION AS LINE 14)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES

LINE LIST = 53 79 54 80
(TRAVERSED IN SAME DIRECTION AS LINE 53)

AREA NUMBER = 22

DEFINE AREA BY LIST OF LINES

LINE LIST = 54 81 55 82
(TRAVERSED IN SAME DIRECTION AS LINE 54)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES

LINE LIST = 56 83 57 84
(TRAVERSED IN SAME DIRECTION AS LINE 56)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES

LINE LIST = 58 85 59 86
(TRAVERSED IN SAME DIRECTION AS LINE 58)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES

LINE LIST = 59 87 60 88
(TRAVERSED IN SAME DIRECTION AS LINE 59)

AREA NUMBER = 26

DEFINE AREA BY LIST OF LINES

LINE LIST = 60 89 29 90
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 27

Define shell gaps at the exterior of the tube array
(K's 66 - 67)
(L's 91 - 99)
(A's 28 - 34)

KEYPOINT 66 X,Y,Z= .000000E+00 .593750 .000000E+00 IN CSYS= 0

KEYPOINT 67 X,Y,Z= .000000E+00 -.593750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS

		15	66			
LINE NO.=	91	KP1=	15	TAN1=	.0000	1.0000
		KP2=	66	TAN2=	.0000	-1.0000
					.0000	.0000

LINE CONNECTS KEYPOINTS

		66	58			
LINE NO.=	92	KP1=	66	TAN1=	-1.0000	.0000
		KP2=	58	TAN2=	1.0000	.0000
					.0000	.0000

LINE CONNECTS KEYPOINTS

		59	18			
LINE NO.=	93	KP1=	59	TAN1=	-1.0000	.0000
		KP2=	18	TAN2=	1.0000	.0000
					.0000	.0000

LINE CONNECTS KEYPOINTS	21	47			
LINE NO.= 94 KP1=	21	TAN1=	.0000	1.0000	.0000
KP2=	47	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	46	56			
LINE NO.= 95 KP1=	46	TAN1=	.0000	1.0000	.0000
KP2=	56	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	57	27			
LINE NO.= 96 KP1=	57	TAN1=	.0000	1.0000	.0000
KP2=	27	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS	30	65			
LINE NO.= 97 KP1=	30	TAN1=	1.0000	.0000	.0000
KP2=	65	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	64	67			
LINE NO.= 98 KP1=	64	TAN1=	1.0000	.0000	.0000
KP2=	67	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS	67	33			
LINE NO.= 99 KP1=	67	TAN1=	.0000	1.0000	.0000
KP2=	33	TAN2=	.0000	-1.0000	.0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 13 91 92 77
 (TRAVERSED IN SAME DIRECTION AS LINE 13)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
 LINE LIST = 15 78 93
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
 LINE LIST = 19 94 67
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES
 LINE LIST = 21 68 95 75 22
 (TRAVERSED IN SAME DIRECTION AS LINE 21)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES
 LINE LIST = 24 76 96
 (TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES
 LINE LIST = 28 97 90
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES
 LINE LIST = 30 89 98 99
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 34

Define center half-tube
 (K's 68-75)
 (L's 100-110)

(A's 35-38)

KEYPOINT	68	X,Y,Z=	.000000E+00	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.111750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.000000E+00	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.111750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	72	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	70	68			
LINE NO.= 100	KP1= 70	TAN1=	.0000	-1.0000	.0000
	KP2= 68	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	70	74			
LINE NO.= 101	KP1= 70	TAN1=	.0000	1.0000	.0000
	KP2= 74	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	68	72			
LINE NO.= 102	KP1= 68	TAN1=	.0000	-1.0000	.0000
	KP2= 72	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	71	75			
LINE NO.= 103	KP1= 71	TAN1=	-.7071	.7071	.0000
	KP2= 75	TAN2=	.7071	-.7071	.0000

LINE CONNECTS KEYPOINTS	69	73			
LINE NO.= 104	KP1= 69	TAN1=	-.7071	-.7071	.0000
	KP2= 73	TAN2=	.7071	.7071	.0000

LINE CONNECTS KEYPOINTS	75	74			
LINE NO.= 105	KP1= 75	TAN1=	1.0000	.0000	.0000
	KP2= 74	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	71	70			
LINE NO.= 106	KP1= 71	TAN1=	1.0000	.0000	.0000
	KP2= 70	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	68	69			
LINE NO.= 107	KP1= 68	TAN1=	-1.0000	.0000	.0000
	KP2= 69	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	72	73			
LINE NO.= 108	KP1= 72	TAN1=	-1.0000	.0000	.0000
	KP2= 73	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	69	71			
LINE NO.= 109	KP1= 69	TAN1=	.0000	1.0000	.0000
	KP2= 71	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	73	75			
LINE NO.= 110	KP1= 73	TAN1=	.0000	1.0000	.0000
	KP2= 75	TAN2=	.0000	-1.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 100 106 109 107
(TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES

LINE LIST = 101 105 103 106

(TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 109 103 110 104

(TRAVERSED IN SAME DIRECTION AS LINE 109)

AREA NUMBER = 37

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 107 104 108

(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 38

Define center full-tube

(K's 76 - 83)

(L's 111 - 122)

(A's 39 - 43)

KEYPOINT	76	X,Y,Z=	.131750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.355250	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	78	X,Y,Z=	.131750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	79	X,Y,Z=	.355250	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	80	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	81	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	82	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	83	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	78	82
LINE NO.= 111	KP1= 78	TAN1= .7071 .7071 .0000
	KP2= 82	TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	76	80
LINE NO.= 112	KP1= 76	TAN1= .7071 -.7071 .0000
	KP2= 80	TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS	79	83
LINE NO.= 113	KP1= 79	TAN1= -.7071 .7071 .0000
	KP2= 83	TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	77	81
LINE NO.= 114	KP1= 77	TAN1= -.7071 -.7071 .0000
	KP2= 81	TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS	83	82
LINE NO.= 115	KP1= 83	TAN1= 1.0000 .0000 .0000
	KP2= 82	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	79	78
LINE NO.= 116	KP1= 79	TAN1= 1.0000 .0000 .0000
	KP2= 78	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	76	77
LINE NO.= 117	KP1= 76	TAN1= -1.0000 .0000 .0000
	KP2= 77	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	80	81
LINE NO.= 118	KP1= 80	TAN1= -1.0000 .0000 .0000
	KP2= 81	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	82	80
-------------------------	----	----


```

LINE NO.= 119 KP1= 82 TAN1= .0000 -1.0000 .0000
              KP2= 80 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 78 76
LINE NO.= 120 KP1= 78 TAN1= .0000 -1.0000 .0000
              KP2= 76 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 77 79
LINE NO.= 121 KP1= 77 TAN1= .0000 1.0000 .0000
              KP2= 79 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 81 83
LINE NO.= 122 KP1= 81 TAN1= .0000 1.0000 .0000
              KP2= 83 TAN2= .0000 -1.0000 .0000

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 120 116 121 117
(TRAVERSED IN SAME DIRECTION AS LINE 120)

```

AREA NUMBER = 39

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 119 111 120 112
(TRAVERSED IN SAME DIRECTION AS LINE 119)

```

AREA NUMBER = 40

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 111 115 113 116
(TRAVERSED IN SAME DIRECTION AS LINE 111)

```

AREA NUMBER = 41

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 121 113 122 114
(TRAVERSED IN SAME DIRECTION AS LINE 121)

```

AREA NUMBER = 42

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 112 117 114 118
(TRAVERSED IN SAME DIRECTION AS LINE 112)

```

AREA NUMBER = 43

```

Set element shapes and sizes for tubes
14x14 mesh in fuel with 2
divisions per tube layer

```

```

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

```

DEFAULT ELEMENT DIVISIONS PER LINE = 1

```

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 115 TO 122 STEP 1

```

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 109 TO 110 STEP 1

```

10 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 100 TO 100 STEP 1

```

11 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

TO NDIV = 14, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 105 TO 108 STEP 1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 101 TO 104 STEP 1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 111 TO 114 STEP 1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 122 STEP 1

122 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 35 TO 35 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 120
MAXIMUM ELEMENT NUMBER = 98

GENERATE NODES AND ELEMENTS
IN AREAS 39 TO 39 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 345
MAXIMUM ELEMENT NUMBER = 294

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 36 TO 38 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 403
MAXIMUM ELEMENT NUMBER = 350

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 515
MAXIMUM ELEMENT NUMBER = 462

Copy tube mesh

center half tube above and below

(A's 44 - 47)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 693
 MAXIMUM ELEMENT NUMBER = 616
 (A's 48 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 871
 MAXIMUM ELEMENT NUMBER = 770
 (A's 52 - 55)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1049
 MAXIMUM ELEMENT NUMBER = 924
 (A's 56 - 59)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1227
 MAXIMUM ELEMENT NUMBER = 1078

center full tube side, above, and below
 (A's 60 - 64 = Side)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1564
 MAXIMUM ELEMENT NUMBER = 1386
 (A's 65 - 69 = up 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1901
 MAXIMUM ELEMENT NUMBER = 1694
 (A's 70 - 74 = up 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2238
 MAXIMUM ELEMENT NUMBER = 2002
 (A's 75 - 79 = down 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2575
 MAXIMUM ELEMENT NUMBER = 2310
 (A's 80 - 84 = down 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1

DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2912
 MAXIMUM ELEMENT NUMBER = 2618
 center full tube get corners
 (A's 85 - 89 = up corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3249
 MAXIMUM ELEMENT NUMBER = 2926
 (A's 90 - 94 = down corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3586
 MAXIMUM ELEMENT NUMBER = 3234

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 814	USED FOR NODES	1214
NODE 680	USED FOR NODES	992
NODE 822	USED FOR NODES	1216
NODE 682	USED FOR NODES	1000
NODE 821	USED FOR NODES	1217
NODE 683	USED FOR NODES	999
NODE 820	USED FOR NODES	1218
NODE 684	USED FOR NODES	998
NODE 819	USED FOR NODES	1219
NODE 685	USED FOR NODES	997
NODE 818	USED FOR NODES	1220
NODE 686	USED FOR NODES	996
NODE 687	USED FOR NODES	995
NODE 817	USED FOR NODES	1221
NODE 816	USED FOR NODES	1186
NODE 652	USED FOR NODES	994
NODE 1791	USED FOR NODES	2127
NODE 2464	USED FOR NODES	2802
NODE 1876	USED FOR NODES	2170
NODE 2507	USED FOR NODES	2887
NODE 1877	USED FOR NODES	2169
NODE 2506	USED FOR NODES	2888
NODE 1878	USED FOR NODES	2168
NODE 2505	USED FOR NODES	2889
NODE 1879	USED FOR NODES	2167
NODE 2504	USED FOR NODES	2890
NODE 1880	USED FOR NODES	2166
NODE 2503	USED FOR NODES	2891
NODE 1881	USED FOR NODES	2165
NODE 2502	USED FOR NODES	2892
NODE 1882	USED FOR NODES	2164
NODE 2501	USED FOR NODES	2893
NODE 1883	USED FOR NODES	2163
NODE 2500	USED FOR NODES	2894
NODE 1884	USED FOR NODES	2162
NODE 2499	USED FOR NODES	2895
NODE 1885	USED FOR NODES	2161
NODE 2498	USED FOR NODES	2896
NODE 1886	USED FOR NODES	2160
NODE 2497	USED FOR NODES	2897
NODE 1887	USED FOR NODES	2159
NODE 2496	USED FOR NODES	2898
NODE 1888	USED FOR NODES	2158
NODE 2495	USED FOR NODES	2899
NODE 2494	USED FOR NODES	2859
NODE 2522	USED FOR NODES	3476

3475

NODE	2535	USED FOR NODES	3477	
NODE	2534	USED FOR NODES	3478	
NODE	2533	USED FOR NODES	3479	
NODE	2532	USED FOR NODES	3480	
NODE	1820	USED FOR NODES	3138	
NODE	1848	USED FOR NODES	2157	3139
NODE	1861	USED FOR NODES	3140	
NODE	434	USED FOR NODES	1453	
NODE	462	USED FOR NODES	1454	
NODE	475	USED FOR NODES	1455	
NODE	2523	USED FOR NODES	3489	
NODE	2524	USED FOR NODES	3488	
NODE	2525	USED FOR NODES	3487	
NODE	2526	USED FOR NODES	3486	
NODE	2527	USED FOR NODES	3485	
NODE	2528	USED FOR NODES	3484	
NODE	2529	USED FOR NODES	3483	
NODE	2530	USED FOR NODES	3482	
NODE	2531	USED FOR NODES	3481	
NODE	474	USED FOR NODES	1456	
NODE	473	USED FOR NODES	1457	
NODE	472	USED FOR NODES	1458	
NODE	471	USED FOR NODES	1459	
NODE	470	USED FOR NODES	1460	
NODE	469	USED FOR NODES	1461	
NODE	468	USED FOR NODES	1462	
NODE	467	USED FOR NODES	1463	
NODE	463	USED FOR NODES	1467	
NODE	466	USED FOR NODES	1464	
NODE	464	USED FOR NODES	1466	
NODE	465	USED FOR NODES	1465	
NODE	1860	USED FOR NODES	3141	
NODE	1859	USED FOR NODES	3142	
NODE	1858	USED FOR NODES	3143	
NODE	1857	USED FOR NODES	3144	
NODE	1856	USED FOR NODES	3145	
NODE	1855	USED FOR NODES	3146	
NODE	1854	USED FOR NODES	3147	
NODE	1853	USED FOR NODES	3148	
NODE	1852	USED FOR NODES	3149	
NODE	1851	USED FOR NODES	3150	
NODE	1850	USED FOR NODES	3151	
NODE	1849	USED FOR NODES	3152	

*** WARNING *** CP= 12.110 TIME= 11:05:27
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 12.410 TIME= 11:05:28
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.420 TIME= 11:05:28
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.430 TIME= 11:05:28
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.440 TIME= 11:05:28

Keypoints 21 and 163 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

KEYPOINT	34 USED FOR KEYPOINT(S)	131	138	161
KEYPOINT	37 USED FOR KEYPOINT(S)	146	155	168
KEYPOINT	38 USED FOR KEYPOINT(S)	72		
KEYPOINT	39 USED FOR KEYPOINT(S)	88		
KEYPOINT	40 USED FOR KEYPOINT(S)	73		
KEYPOINT	41 USED FOR KEYPOINT(S)	89		
KEYPOINT	42 USED FOR KEYPOINT(S)	80		
KEYPOINT	43 USED FOR KEYPOINT(S)	128		
KEYPOINT	44 USED FOR KEYPOINT(S)	81	121	
KEYPOINT	45 USED FOR KEYPOINT(S)	130	160	
KEYPOINT	46 USED FOR KEYPOINT(S)	123		
KEYPOINT	47 USED FOR KEYPOINT(S)	162		
KEYPOINT	48 USED FOR KEYPOINT(S)	74		
KEYPOINT	49 USED FOR KEYPOINT(S)	99		
KEYPOINT	50 USED FOR KEYPOINT(S)	75		
KEYPOINT	51 USED FOR KEYPOINT(S)	98		
KEYPOINT	52 USED FOR KEYPOINT(S)	82		
KEYPOINT	53 USED FOR KEYPOINT(S)	145		
KEYPOINT	54 USED FOR KEYPOINT(S)	83	120	
KEYPOINT	55 USED FOR KEYPOINT(S)	147	169	
KEYPOINT	56 USED FOR KEYPOINT(S)	122		
KEYPOINT	57 USED FOR KEYPOINT(S)	171		
KEYPOINT	58 USED FOR KEYPOINT(S)	106		
KEYPOINT	59 USED FOR KEYPOINT(S)	137		
KEYPOINT	60 USED FOR KEYPOINT(S)	90	105	
KEYPOINT	61 USED FOR KEYPOINT(S)	129	136	
KEYPOINT	62 USED FOR KEYPOINT(S)	97	114	
KEYPOINT	63 USED FOR KEYPOINT(S)	144	153	
KEYPOINT	64 USED FOR KEYPOINT(S)	113		
KEYPOINT	65 USED FOR KEYPOINT(S)	152		
KEYPOINT	66 USED FOR KEYPOINT(S)	107		
KEYPOINT	67 USED FOR KEYPOINT(S)	112		
KEYPOINT	91 USED FOR KEYPOINT(S)	104		
KEYPOINT	96 USED FOR KEYPOINT(S)	115		
LINE	61 USED FOR LINE(S)	128		

*** WARNING *** CP= 12.660 TIME= 11:05:28
Due to merge, line 61 is now meshed.
LINE 62 USED FOR LINE(S) 108

*** WARNING *** CP= 12.660 TIME= 11:05:28
Due to merge, line 62 is now meshed.
LINE 63 USED FOR LINE(S) 186

*** WARNING *** CP= 12.670 TIME= 11:05:28
Due to merge, line 63 is now meshed.
LINE 64 USED FOR LINE(S) 118

*** WARNING *** CP= 12.670 TIME= 11:05:28
Due to merge, line 64 is now meshed.
LINE 65 USED FOR LINE(S) 234

*** WARNING *** CP= 12.670 TIME= 11:05:28
Due to merge, line 65 is now meshed.
LINE 66 USED FOR LINE(S) 178

*** WARNING *** CP= 12.670 TIME= 11:05:28
Due to merge, line 66 is now meshed.
LINE 69 USED FOR LINE(S) 105

*** WARNING *** CP= 12.680 TIME= 11:05:28
Due to merge, line 69 is now meshed.
LINE 70 USED FOR LINE(S) 144

*** WARNING *** CP= 12.680 TIME= 11:05:28
Due to merge, line 70 is now meshed.

LINE 71 USED FOR LINE(S) 115

*** WARNING ***

Due to merge, line 71 is now meshed.

LINE 72 USED FOR LINE(S) 214

CP= 12.680 TIME= 11:05:28

*** WARNING ***

Due to merge, line 72 is now meshed.

LINE 73 USED FOR LINE(S) 174

CP= 12.680 TIME= 11:05:28

*** WARNING ***

Due to merge, line 73 is now meshed.

LINE 74 USED FOR LINE(S) 250

CP= 12.690 TIME= 11:05:28

*** WARNING ***

Due to merge, line 74 is now meshed.

LINE 79 USED FOR LINE(S) 152

CP= 12.690 TIME= 11:05:28

*** WARNING ***

Due to merge, line 79 is now meshed.

LINE 80 USED FOR LINE(S) 195

CP= 12.690 TIME= 11:05:28

*** WARNING ***

Due to merge, line 80 is now meshed.

LINE 81 USED FOR LINE(S) 130

CP= 12.700 TIME= 11:05:28

*** WARNING ***

Due to merge, line 81 is now meshed.

LINE 82 USED FOR LINE(S) 183

CP= 12.700 TIME= 11:05:28

*** WARNING ***

Due to merge, line 82 is now meshed.

LINE 83 USED FOR LINE(S) 110

CP= 12.700 TIME= 11:05:28

*** WARNING ***

Due to merge, line 83 is now meshed.

LINE 84 USED FOR LINE(S) 119

CP= 12.700 TIME= 11:05:28

*** WARNING ***

Due to merge, line 84 is now meshed.

LINE 85 USED FOR LINE(S) 141

CP= 12.710 TIME= 11:05:28

*** WARNING ***

Due to merge, line 85 is now meshed.

LINE 86 USED FOR LINE(S) 207

CP= 12.710 TIME= 11:05:28

*** WARNING ***

Due to merge, line 86 is now meshed.

LINE 87 USED FOR LINE(S) 163

CP= 12.710 TIME= 11:05:28

*** WARNING ***

Due to merge, line 87 is now meshed.

LINE 88 USED FOR LINE(S) 219

CP= 12.720 TIME= 11:05:28

*** WARNING ***

Due to merge, line 88 is now meshed.

LINE 92 USED FOR LINE(S) 155

CP= 12.720 TIME= 11:05:28

*** WARNING ***

Due to merge, line 92 is now meshed.

LINE 95 USED FOR LINE(S) 176

CP= 12.720 TIME= 11:05:28

*** WARNING ***

Due to merge, line 95 is now meshed.

LINE 98 USED FOR LINE(S) 161

CP= 12.720 TIME= 11:05:28

*** WARNING ***

Due to merge, line 98 is now meshed.

LINE 122 USED FOR LINE(S) 171

CP= 12.730 TIME= 11:05:28

LINE 133 USED FOR LINE(S) 150

LINE 139 USED FOR LINE(S) 166
LINE 188 USED FOR LINE(S) 231
LINE 190 USED FOR LINE(S) 198
LINE 210 USED FOR LINE(S) 226
LINE 212 USED FOR LINE(S) 243

Create mesh in tube guides, thermal shunts
Set mesh size for gaps.....

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 41 TO 60 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 20 STEP 2

24 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 29 STEP 2

28 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 61 TO 62 STEP 1

2 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 69 TO 70 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 91 TO 92 STEP 1

6 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 98 TO 99 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 22 STEP 1

10 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 77 TO 78 STEP 1

12 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 89 TO 90 STEP 1

14 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 67 TO 68 STEP 1

16 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 75 TO 76 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 13 TO 13 STEP 1

19 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 30 TO 30 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

TO NDIV = 7, SPACING RATIO = 1.000

*** WARNING ***

CP= 12.870 TIME= 11:05:28

Some lines in the currently selected set were meshed and could not be altered.

SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 63 TO 66 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 71 TO 74 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 79 TO 88 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 33 TO 40 STEP 1

26 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 93 TO 97 STEP 1

31 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 15 TO 19 STEP 2

34 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 24 TO 28 STEP 2

37 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

TO NDIV = 14, SPACING RATIO = 1.000

*** WARNING ***

CP= 12.910 TIME= 11:05:28

Some lines in the currently selected set were meshed and could not be altered.

MESH CORNER GUIDES

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:

PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 7 TO 10 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 3758
MAXIMUM ELEMENT NUMBER = 3346
MESH THERMAL SHUNTS

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 27 IN STEPS OF 1

*** WARNING *** CP= 13.470 TIME= 11:05:29
Meshing of area 13 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.470 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3365 3378 3379 3392

*** WARNING *** CP= 13.520 TIME= 11:05:29
Meshing of area 14 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.530 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3393 3406 3407 3420

*** WARNING *** CP= 13.660 TIME= 11:05:29
Meshing of area 18 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.660 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3453 3454 3479 3480

*** WARNING *** CP= 13.710 TIME= 11:05:29
Meshing of area 19 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.710 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3481 3482 3507 3508

*** WARNING *** CP= 13.850 TIME= 11:05:29
Meshing of area 22 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.850 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3537 3550 3551 3564

*** WARNING *** CP= 13.890 TIME= 11:05:29
Meshing of area 23 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.900 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3565 3578 3579 3592

*** WARNING *** CP= 13.940 TIME= 11:05:29
Meshing of area 24 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.940 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3593 3606 3607 3620

*** WARNING *** CP= 13.990 TIME= 11:05:29
Meshing of area 25 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.000 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3621 3634 3635 3648

*** WARNING *** CP= 14.050 TIME= 11:05:29
Meshing of area 26 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.050 TIME= 11:05:29
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3649 3662 3663 3676

NUMBER OF AREAS MESHED = 17
MAXIMUM NODE NUMBER = 3991
MAXIMUM ELEMENT NUMBER = 3690

Create mesh in UCF inner shell
(L's 105,108)

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 21 STEP 1

9 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 105 KP1= 15 KP2= 24

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 30 STEP 1

9 LINES (OF 219 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 108 KP1= 24 KP2= 33

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 31 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 3 TO 4 IN STEPS OF 1

*** WARNING *** CP= 15.040 TIME= 11:05:30
Meshing of area 3 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.040 TIME= 11:05:30
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3718	3719	3720	3721	3722	3723	3724	3725	3726	3727
3728	3729	3730	3731	3732	3733	3734	3735	3738	3763
3764	3765	3766	3767	3768	3769	3770	3771	3772	3773
3774	3799	3800	3801	3802	3803	3804	3805	3806	3807
3808	3809	3810	3837	3838	3839	3840	3841	3842	3843
3844	3845	3846	3847	3848	3849	3850	3851	3852	3853
3854	3855								

*** WARNING *** CP= 15.920 TIME= 11:05:31
Meshing of area 4 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.920 TIME= 11:05:31
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3910	3911	3912	3913	3914	3915	3916	3917	3918	3919
3920	3921	3922	3923	3924	3925	3926	3927	3930	3955
3956	3957	3958	3959	3960	3961	3962	3963	3964	3965
3966	3991	3992	3993	3994	3995	3996	3997	3998	3999
4000	4001	4002	4029	4030	4031	4032	4033	4034	4035
4036	4037	4038	4039	4040	4041	4042	4043	4044	4045
4046	4047								

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4483
MAXIMUM ELEMENT NUMBER = 4074

Delete concatenated lines
(L's freed up 105,108)
LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

TO NDIV = 64, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 3

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 1 TO 2 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4870
MAXIMUM ELEMENT NUMBER = 4458

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2185	USED FOR NODES	3588
NODE 2831	USED FOR NODES	3717
NODE 2198	USED FOR NODES	3590
NODE 2864	USED FOR NODES	3741
NODE 2186	USED FOR NODES	3602
NODE 2867	USED FOR NODES	3738
NODE 2188	USED FOR NODES	3600
NODE 2872	USED FOR NODES	3733
NODE 2189	USED FOR NODES	3599
NODE 2190	USED FOR NODES	3598
NODE 2191	USED FOR NODES	3597
NODE 2192	USED FOR NODES	3596
NODE 2193	USED FOR NODES	3595
NODE 2194	USED FOR NODES	3594
NODE 2196	USED FOR NODES	3592
NODE 2863	USED FOR NODES	3742
NODE 2197	USED FOR NODES	3591
NODE 2195	USED FOR NODES	3593
NODE 2861	USED FOR NODES	3744
NODE 2866	USED FOR NODES	3739
NODE 2860	USED FOR NODES	3745
NODE 2870	USED FOR NODES	3735
NODE 2862	USED FOR NODES	3743
NODE 2868	USED FOR NODES	3737
NODE 2869	USED FOR NODES	3736
NODE 2865	USED FOR NODES	3740
NODE 2187	USED FOR NODES	3601
NODE 2871	USED FOR NODES	3734
NODE 3224	USED FOR NODES	3659
NODE 3518	USED FOR NODES	3676
NODE 3225	USED FOR NODES	3658
NODE 3517	USED FOR NODES	3677
NODE 3226	USED FOR NODES	3657
NODE 3516	USED FOR NODES	3678
NODE 3227	USED FOR NODES	3656
NODE 3515	USED FOR NODES	3679
NODE 3228	USED FOR NODES	3655
NODE 3514	USED FOR NODES	3680
NODE 3229	USED FOR NODES	3654
NODE 3513	USED FOR NODES	3681
NODE 3230	USED FOR NODES	3653
NODE 3512	USED FOR NODES	3682

NODE 3231 USED FOR NODES 3652
 NODE 3511 USED FOR NODES 3683
 NODE 3232 USED FOR NODES 3651
 NODE 3510 USED FOR NODES 3684
 NODE 3509 USED FOR NODES 3685
 NODE 3233 USED FOR NODES 3650
 NODE 3234 USED FOR NODES 3649
 NODE 3508 USED FOR NODES 3686
 NODE 3235 USED FOR NODES 3648
 NODE 3507 USED FOR NODES 3687
 NODE 3506 USED FOR NODES 3688
 NODE 3236 USED FOR NODES 3647
 NODE 3505 USED FOR NODES 3674
 NODE 3196 USED FOR NODES 3631

*** WARNING *** CP= 20.060 TIME= 11:05:35
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 20.370 TIME= 11:05:36
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.380 TIME= 11:05:36
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.380 TIME= 11:05:36
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.380 TIME= 11:05:36
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

 Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
 IN AREAS 5 TO 6 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 5124
 MAXIMUM ELEMENT NUMBER = 4752

GENERATE NODES AND ELEMENTS
 IN AREAS 28 TO 34 IN STEPS OF 1
 ** AREA 29 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 30 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 31 MESHED WITH 110 QUADRILATERALS, 8 TRIANGLES **

** AREA 32 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 33 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **

NUMBER OF AREAS MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5252

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2213 USED FOR NODES 5167
 NODE 2844 USED FOR NODES 5451
 NODE 2214 USED FOR NODES 5168
 NODE 2843 USED FOR NODES 5450
 NODE 2215 USED FOR NODES 5169
 NODE 2842 USED FOR NODES 5449
 NODE 2216 USED FOR NODES 5170
 NODE 2841 USED FOR NODES 5448
 NODE 2217 USED FOR NODES 5171
 NODE 2840 USED FOR NODES 5447
 NODE 2218 USED FOR NODES 5172
 NODE 2839 USED FOR NODES 5446
 NODE 2219 USED FOR NODES 5173
 NODE 2838 USED FOR NODES 5445
 NODE 2220 USED FOR NODES 5174
 NODE 2837 USED FOR NODES 5444
 NODE 2221 USED FOR NODES 5175
 NODE 2836 USED FOR NODES 5443
 NODE 2222 USED FOR NODES 5176
 NODE 2835 USED FOR NODES 5442
 NODE 2223 USED FOR NODES 5177
 NODE 2834 USED FOR NODES 5441
 NODE 2224 USED FOR NODES 5178
 NODE 2833 USED FOR NODES 5440
 NODE 2225 USED FOR NODES 5179
 NODE 2832 USED FOR NODES 5439
 NODE 3536 USED FOR NODES 5381
 NODE 3541 USED FOR NODES 5386
 NODE 3197 USED FOR NODES 5227
 NODE 3537 USED FOR NODES 5382
 NODE 3199 USED FOR NODES 5229
 NODE 3200 USED FOR NODES 5230
 NODE 3201 USED FOR NODES 5231
 NODE 3202 USED FOR NODES 5232
 NODE 3203 USED FOR NODES 5233
 NODE 3204 USED FOR NODES 5234
 NODE 3205 USED FOR NODES 5235
 NODE 3540 USED FOR NODES 5385
 NODE 3207 USED FOR NODES 5237
 NODE 3534 USED FOR NODES 5379
 NODE 3208 USED FOR NODES 5238
 NODE 3542 USED FOR NODES 5387
 NODE 3209 USED FOR NODES 5239
 NODE 3538 USED FOR NODES 5383
 NODE 3539 USED FOR NODES 5384
 NODE 3546 USED FOR NODES 5391
 NODE 3545 USED FOR NODES 5390
 NODE 3544 USED FOR NODES 5389
 NODE 3198 USED FOR NODES 5228
 NODE 3535 USED FOR NODES 5380
 NODE 3206 USED FOR NODES 5236
 NODE 3543 USED FOR NODES 5388

*** WARNING *** CP= 25.740 TIME= 11:05:41
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 26.080 TIME= 11:05:41
 Keypoints 18 and 139 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.090 TIME= 11:05:41
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.090 TIME= 11:05:41
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.090 TIME= 11:05:41
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 13 TO 21 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5308

GENERATE NODES AND ELEMENTS
 ON LINES 22 TO 30 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5364

GENERATE NODES AND ELEMENTS
 ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5392

GENERATE NODES AND ELEMENTS
 ON LINES 37 TO 38 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5420

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 92 TO 98 IN STEPS OF 1

NUMBER OF LINES MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5504

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 68 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5518

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 78 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5546

GENERATE NODES AND ELEMENTS
ON LINES 89 TO 90 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5560

***** ROUTINE COMPLETED ***** CP = 26.380

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=

21 PWR UCF/Waste Package - 1/2 FEM Model

/SHOW SWITCH PLOTS TO FILE meshfull.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshfull.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4766 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

/SHOW SWITCH PLOTS TO FILE meshgap.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshgap.grph - VECTOR MODE.
DISPLAY TITLE=

21 PWR UCF/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

/SHOW SWITCH PLOTS TO FILE meshrad.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshrad.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:05:47 JUN 11, 1995 CP= 31.900
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

310 NODES (OF 5339 DEFINED) SELECTED FROM
308 SELECTED ELEMENTS BY NSLE COMMAND.

STEFAN-BOLTZMANN CONSTANT= .56700E-07

TWO DIMENSIONAL PLANE GEOMETRY (UNIT THICKNESS)

HIDDEN SURFACE (SLOW) METHOD
NUMBER OF ZONES= 800

WRITE RADIATION MATRIX TO FILE= spaces.sub

*** WARNING *** CP= 32.160 TIME= 11:05:48
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation

losses.

NUMBER OF ELEMENTS= 308 NUMBER OF NODES= 310

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5338 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 46.770

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:06:03 JUN 11, 1995 CP= 46.770
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE SET TO 18

SUPERELEMENT 5561 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 5561

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 5561
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

29 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 46.820 TIME= 11:06:03
Nodes cannot be cleared from line 13 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.820 TIME= 11:06:03
Nodes cannot be cleared from line 15 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.830 TIME= 11:06:03
Nodes cannot be cleared from line 17 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.840 TIME= 11:06:03
Nodes cannot be cleared from line 19 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.840 TIME= 11:06:03
Nodes cannot be cleared from line 21 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.850 TIME= 11:06:03
Nodes cannot be cleared from line 22 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.850 TIME= 11:06:03
Nodes cannot be cleared from line 24 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.860 TIME= 11:06:03
Nodes cannot be cleared from line 26 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.860 TIME= 11:06:03
Nodes cannot be cleared from line 28 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.870 TIME= 11:06:03
Nodes cannot be cleared from line 30 because area 34 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.870 TIME= 11:06:03
Nodes cannot be cleared from line 33 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.880 TIME= 11:06:03
Nodes cannot be cleared from line 34 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.880 TIME= 11:06:03
Nodes cannot be cleared from line 37 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.890 TIME= 11:06:03
Nodes cannot be cleared from line 38 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.890 TIME= 11:06:03
Nodes cannot be cleared from line 67 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 11:06:03
Nodes cannot be cleared from line 68 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 11:06:03
Nodes cannot be cleared from line 75 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 11:06:03
Nodes cannot be cleared from line 76 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.910 TIME= 11:06:03
Nodes cannot be cleared from line 77 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.910 TIME= 11:06:03
Nodes cannot be cleared from line 78 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.920 TIME= 11:06:03
Nodes cannot be cleared from line 89 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.920 TIME= 11:06:03
Nodes cannot be cleared from line 90 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.920 TIME= 11:06:03
Nodes cannot be cleared from line 92 because area 28 is meshed. Only

elements are deleted.

*** NOTE *** CP= 46.930 TIME= 11:06:03
Nodes cannot be cleared from line 93 because area 29 is meshed. Only elements are deleted.

*** NOTE *** CP= 46.930 TIME= 11:06:03
Nodes cannot be cleared from line 94 because area 30 is meshed. Only elements are deleted.

*** NOTE *** CP= 46.940 TIME= 11:06:03
Nodes cannot be cleared from line 95 because area 31 is meshed. Only elements are deleted.

*** NOTE *** CP= 46.940 TIME= 11:06:03
Nodes cannot be cleared from line 96 because area 32 is meshed. Only elements are deleted.

*** NOTE *** CP= 46.950 TIME= 11:06:03
Nodes cannot be cleared from line 97 because area 33 is meshed. Only elements are deleted.

*** NOTE *** CP= 46.950 TIME= 11:06:03
Nodes cannot be cleared from line 98 because area 34 is meshed. Only elements are deleted.

CLEARED 29 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 46.960

Set solution parameters and apply B.C.'s

Solve steady-state for initial conditions
with WP surface equal to drift ambient
temperature from repository model.

***** ANSYS SOLUTION ROUTINE *****

PERFORM A TRANSIENT ANALYSIS
THIS WILL BE A NEW ANALYSIS

USE THE DEFAULT NEWTON-RAPHSON OPTION FOR ALL DOFS
AND USE THE DEFAULT ADAPTIVE DESCENT OPTION

*** NOTE *** CP= 46.970 TIME= 11:06:03
Damping (if present) may be ignored only in reduced transient analyses.

PERFORM A FULL TRANSIENT ANALYSIS

TEMPERATURE OFFSET FROM ABSOLUTE ZERO= 273.150

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 5538 BY 1
REAL= 26.1377204 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .10000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

*** NOTE *** CP= 48.390 TIME= 11:06:04
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:06:04 JUN 11, 1995 CP= 48.390
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY. 3-D
DEGREES OF FREEDOM. TEMP

ANALYSIS TYPETRANSIENT
 SOLUTION METHOD.FULL
 OFFSET TEMPERATURE FROM ABSOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 49.440 TIME= 11:06:05
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 49.940 TIME= 11:06:06
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER.1
 TIME AT END OF THE LOAD STEP.10000E-05
 AUTOMATIC TIME STEPPINGON
 INITIAL NUMBER OF SUBSTEPS0
 MAXIMUM NUMBER OF SUBSTEPS0
 MINIMUM NUMBER OF SUBSTEPS1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONSNO
 TRANSIENT (INERTIA) EFFECTSOFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 5022.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .36600	IXX = 929.5	IXX = 929.5
YC = .10813E-10	IYY = 929.6	IYY = 256.7
ZC = .00000E+00	IZZ = 1859.	IZZ = 1186.
	IXY = -.1213E-07	IXY = .7745E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	5022.88

Range of element maximum matrix coefficients in global coordinates
 Maximum= 2640.26464 at element 3393.
 Minimum= 1.261859514E-09 at element 5561.

*** WARNING *** CP= 69.850 TIME= 11:06:27
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
------	--------	-------	----------	--------

1	5252	PLANE55	12.900	.002
18	1	MATRIX50	.120	.120

Time at end of element matrix formulation CP= 69.85.
 HT FLOW CONVERGENCE VALUE= 7081. CRITERION= 7.081

Estimated number of active DOF= 5210.
Maximum wavefront= 384.

Time at end of matrix triangularization CP= 95.3.
Equation solver maximum pivot= 5623.89496 at node 3957 TEMP.
Equation solver minimum pivot= 0.172720496 at node 5125 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 192.3
HT FLOW CONVERGENCE VALUE= 74.33 CRITERION= .3132
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -31.49
HT FLOW CONVERGENCE VALUE= 6.044 CRITERION= .3113
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.886
HT FLOW CONVERGENCE VALUE= .3147 CRITERION= .3091
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1910
HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .3090 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 4

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	7.470	.001
18	1	MATRIX50	.160	.160

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	1.040	.000
18	1	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 4
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS

ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 5210
R.M.S. WAVEFRONT SIZE = 177.2

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096
2.594 MB WRITTEN ON ELEMENT MATRIX FILE: ucf21b.emat
2.359 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf21b.esav
6.969 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf21b.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf21b.dsub
2.859 MB WRITTEN ON RESULTS FILE: ucf21b.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 5538 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 129

ALL SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.929 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.988 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 68.992 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .00000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .20000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** WARNING *** CP= 253.860 TIME= 11:09:35
This load step will be a static (steady-state) step.

*** NOTE *** CP= 254.350 TIME= 11:09:35
The step data was checked and warning messages were found.
Please review output or errors file (ucf21b.err) for these warning
messages.

*** NOTE *** CP= 254.350 TIME= 11:09:35
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFS.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:09:35 JUN 11, 1995 CP= 254.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 2
 TIME AT END OF THE LOAD STEP.20000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1165E+05 CRITERION= 11.66
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.03
 HT FLOW CONVERGENCE VALUE= 37.73 CRITERION= .3152
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -9.335
 HT FLOW CONVERGENCE VALUE= 2.684 CRITERION= .3075
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9152
 HT FLOW CONVERGENCE VALUE= .1213 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 7
 *** TIME = .200000E-05 TIME INC = .100000E-05

Set time integration parameters

INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

USE AUTOMATIC TIME STEPPING THIS LOAD STEP
 Time substep ranges from 10 sec to 1/4 loadstep

USE 10 SUBSTEPS INITIALLY THIS LOAD STEP FOR ALL DOFS
 FOR AUTOMATIC TIME STEPPING:
 USE 40 SUBSTEPS AS A MAXIMUM
 USE 5 SUBSTEPS AS A MINIMUM
 USE THE FINAL TIME STEP SIZE OF THE PREVIOUS LOAD STEP
 AS THE STARTING TIME STEP SIZE.
 Begin Transient
 Apply loads and solve for 0 to .9 years

*DO LOOP ON PARAMETER= TM FROM 31.558 TO .28402E+08 BY .31558E+07

TIME= 31.558

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=

IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

LOAD LABELS = TEMP
VALUES = 68.929 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP
VALUES = 68.988 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 68.992 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 380.500 TIME= 11:11:43
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=IP 9000/7XX 11:11:43 JUN 11, 1995 CP= 380.500
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 3
TIME AT END OF THE LOAD STEP. 31.558
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1213 CRITERION= .3067
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1688E-03
HT FLOW CONVERGENCE VALUE= .3600E-05 CRITERION= .3067 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 8
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1819 OSCILLATION LIMIT = .1435
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2248 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2061E-03
 HT FLOW CONVERGENCE VALUE= .5514E-05 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 9
 *** TIME = 1.57788 TIME INC = .788940
 *** RESPONSE EIGENVALUE = .9628E-01 OSCILLATION LIMIT = .7596E-01
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .2153 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3306E-03
 HT FLOW CONVERGENCE VALUE= .1175E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 10
 *** TIME = 3.94470 TIME INC = 2.36682
 *** RESPONSE EIGENVALUE = .2482E-01 OSCILLATION LIMIT = .5875E-01
 *** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .2034 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2056E-03
 HT FLOW CONVERGENCE VALUE= .2651E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 11
 *** TIME = 10.2562 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .5016E-02 OSCILLATION LIMIT = .3166E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1998 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9493E-04
 HT FLOW CONVERGENCE VALUE= .2389E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 12
 *** TIME = 16.5677 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .2193E-02 OSCILLATION LIMIT = .1384E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1954 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9474E-04
 HT FLOW CONVERGENCE VALUE= .2311E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 13
 *** TIME = 22.8793 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .1799E-02 OSCILLATION LIMIT = .1136E-01
 *** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1942 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9455E-04
 HT FLOW CONVERGENCE VALUE= .2269E-04 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 14
 *** TIME = 29.1908 TIME INC = 6.31152
 *** RESPONSE EIGENVALUE = .1609E-02 OSCILLATION LIMIT = .1016E-01
 *** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .1909 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3541E-04
 HT FLOW CONVERGENCE VALUE= .8433E-05 CRITERION= .3067 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 3 SUBSTEP 8 COMPLETED. CUM ITER = 15
 *** TIME = 31.5576 TIME INC = 2.36682
 *** RESPONSE EIGENVALUE = .1529E-02 OSCILLATION LIMIT = .3619E-02

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:20:18 JUN 11, 1995 CP= 887.920

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 194.7 CRITERION= .3633
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7551
 HT FLOW CONVERGENCE VALUE= .4919 CRITERION= .3046
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7468E-01
 HT FLOW CONVERGENCE VALUE= .2135E-01 CRITERION= .3046 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 17
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6874E-05 OSCILLATION LIMIT = .5423
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 195.7 CRITERION= .3619
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7622
 HT FLOW CONVERGENCE VALUE= .6272 CRITERION= .3058
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9860E-01
 HT FLOW CONVERGENCE VALUE= .2349E-01 CRITERION= .3059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 19
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4957E-06 OSCILLATION LIMIT = .3911E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 584.4 CRITERION= .6597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.265
 HT FLOW CONVERGENCE VALUE= 1.613 CRITERION= .3046
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3525
 HT FLOW CONVERGENCE VALUE= .9329E-01 CRITERION= .3045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 21
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .8558E-06 OSCILLATION LIMIT = .2025
 *** AUTO TIME STEP: NEXT TIME INC = .58427E+06 INCREASED (FACTOR = 2.4686)

HT FLOW CONVERGENCE VALUE= 1445. CRITERION= 1.476
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.592
 HT FLOW CONVERGENCE VALUE= 3.880 CRITERION= .3056
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9617
 HT FLOW CONVERGENCE VALUE= .2679 CRITERION= .3052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 23
 *** TIME = 978770. TIME INC = 584268.
 *** RESPONSE EIGENVALUE = .7000E-06 OSCILLATION LIMIT = .4090
 *** AUTO STEP TIME: NEXT TIME INC = .58427E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1446. CRITERION= 1.478
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.592
 HT FLOW CONVERGENCE VALUE= 4.184 CRITERION= .3039
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9633
 HT FLOW CONVERGENCE VALUE= .2768 CRITERION= .3035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 25
 *** TIME = .156304E+07 TIME INC = 584268.
 *** RESPONSE EIGENVALUE = .7250E-06 OSCILLATION LIMIT = .4236
 *** AUTO STEP TIME: NEXT TIME INC = .58427E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1449. CRITERION= 1.480
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.592
 HT FLOW CONVERGENCE VALUE= 4.046 CRITERION= .3046
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9751
 HT FLOW CONVERGENCE VALUE= .2851 CRITERION= .3042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 27
 *** TIME = .214731E+07 TIME INC = 584268.
 *** RESPONSE EIGENVALUE = .6770E-06 OSCILLATION LIMIT = .3956
 *** AUTO STEP TIME: NEXT TIME INC = .58427E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1450. CRITERION= 1.482
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 5.592
 HT FLOW CONVERGENCE VALUE= 4.159 CRITERION= .3029
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9652
 HT FLOW CONVERGENCE VALUE= .2863 CRITERION= .3025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 29
 *** TIME = .273157E+07 TIME INC = 584268.
 *** RESPONSE EIGENVALUE = .7096E-06 OSCILLATION LIMIT = .4146
 *** AUTO TIME STEP: NEXT TIME INC = .42422E+06 DECREASED (FACTOR = .7261)

HT FLOW CONVERGENCE VALUE= 1055. CRITERION= 1.098
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.060
 HT FLOW CONVERGENCE VALUE= 2.950 CRITERION= .3032
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6755
 HT FLOW CONVERGENCE VALUE= .1926 CRITERION= .3033 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 31
 *** TIME = .315579E+07 TIME INC = 424217.
 *** RESPONSE EIGENVALUE = .6238E-06 OSCILLATION LIMIT = .2646

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:32:57 JUN 11, 1995 CP= 1639.260
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 217.7 CRITERION= .3733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.073
 HT FLOW CONVERGENCE VALUE= .7135 CRITERION= .3038
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1695
 HT FLOW CONVERGENCE VALUE= .4319E-01 CRITERION= .3039 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 33
 *** TIME = .358001E+07 TIME INC = 424217.
 *** RESPONSE EIGENVALUE = .6619E-06 OSCILLATION LIMIT = .2808
 *** AUTO STEP TIME: NEXT TIME INC = .42422E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 217.9 CRITERION= .3738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7797
 HT FLOW CONVERGENCE VALUE= .5206 CRITERION= .3030
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1059
 HT FLOW CONVERGENCE VALUE= .3594E-01 CRITERION= .3030 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 35
 *** TIME = .400423E+07 TIME INC = 424217.
 *** RESPONSE EIGENVALUE = .4974E-05 OSCILLATION LIMIT = 2.110
 *** AUTO TIME STEP: NEXT TIME INC = .14141E+06 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 72.59 CRITERION= .3116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4043
 HT FLOW CONVERGENCE VALUE= .2597 CRITERION= .3032 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 36
 *** TIME = .414563E+07 TIME INC = 141406.
 *** RESPONSE EIGENVALUE = .2162E-05 OSCILLATION LIMIT = .3057
 *** AUTO STEP TIME: NEXT TIME INC = .14141E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.74 CRITERION= .3118
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2603
 HT FLOW CONVERGENCE VALUE= .1723 CRITERION= .3031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 37
 *** TIME = .428704E+07 TIME INC = 141406.
 *** RESPONSE EIGENVALUE = .4536E-05 OSCILLATION LIMIT = .6414

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*** AUTO STEP TIME: NEXT TIME INC = .14141E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.59 CRITERION= .3117
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2600
HT FLOW CONVERGENCE VALUE= .2052 CRITERION= .3030 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 38
*** TIME = .442844E+07 TIME INC = 141406.
*** RESPONSE EIGENVALUE = .1239E-05 OSCILLATION LIMIT = .1752
*** AUTO STEP TIME: NEXT TIME INC = .40356E+06 INCREASED (FACTOR = 2.8539)

HT FLOW CONVERGENCE VALUE= 207.3 CRITERION= .3671
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7424
HT FLOW CONVERGENCE VALUE= .5600 CRITERION= .3029
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1182
HT FLOW CONVERGENCE VALUE= .3614E-01 CRITERION= .3029 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 40
*** TIME = .483200E+07 TIME INC = 403561.
*** RESPONSE EIGENVALUE = .1540E-05 OSCILLATION LIMIT = .6214
*** AUTO STEP TIME: NEXT TIME INC = .40356E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 207.1 CRITERION= .3669
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7417
HT FLOW CONVERGENCE VALUE= .5894 CRITERION= .3026
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1235
HT FLOW CONVERGENCE VALUE= .3715E-01 CRITERION= .3026 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 42
*** TIME = .523557E+07 TIME INC = 403561.
*** RESPONSE EIGENVALUE = .1153E-05 OSCILLATION LIMIT = .4652
*** AUTO STEP TIME: NEXT TIME INC = .40356E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 207.3 CRITERION= .3667
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7417
HT FLOW CONVERGENCE VALUE= .5912 CRITERION= .3025
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1239
HT FLOW CONVERGENCE VALUE= .3662E-01 CRITERION= .3025 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 44
*** TIME = .563913E+07 TIME INC = 403561.
*** RESPONSE EIGENVALUE = .9618E-06 OSCILLATION LIMIT = .3881
*** AUTO STEP TIME: NEXT TIME INC = .40356E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 207.1 CRITERION= .3666
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7417
HT FLOW CONVERGENCE VALUE= .6064 CRITERION= .3021
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1233
HT FLOW CONVERGENCE VALUE= .3665E-01 CRITERION= .3021 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 46
*** TIME = .604269E+07 TIME INC = 403561.
*** RESPONSE EIGENVALUE = .1137E-05 OSCILLATION LIMIT = .4590
*** AUTO STEP TIME: NEXT TIME INC = .26886E+06 DECREASED (FACTOR = .6662)

HT FLOW CONVERGENCE VALUE= 138.1 CRITERION= .3322
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4941
HT FLOW CONVERGENCE VALUE= .3942 CRITERION= .3021
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7877E-01
HT FLOW CONVERGENCE VALUE= .2280E-01 CRITERION= .3021 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 48
*** TIME = .631155E+07 TIME INC = 268864.
*** RESPONSE EIGENVALUE = .9898E-06 OSCILLATION LIMIT = .2661

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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:47:15 JUN 11, 1995 CP= 2488.930

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 86.85 CRITERION= .3143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3111
 HT FLOW CONVERGENCE VALUE= .2611 CRITERION= .3020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 49
 *** TIME = .658042E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .3959E-06 OSCILLATION LIMIT = .1065
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.93 CRITERION= .3143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3110
 HT FLOW CONVERGENCE VALUE= .2316 CRITERION= .3019 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 50
 *** TIME = .684928E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1839E-05 OSCILLATION LIMIT = .4946
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.85 CRITERION= .3141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3111
 HT FLOW CONVERGENCE VALUE= .2444 CRITERION= .3018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 51
 *** TIME = .711814E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1724E-05 OSCILLATION LIMIT = .4634
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.93 CRITERION= .3140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3109
 HT FLOW CONVERGENCE VALUE= .2340 CRITERION= .3016 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 52
 *** TIME = .738701E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1561E-05 OSCILLATION LIMIT = .4196
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.85 CRITERION= .3139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3110
 HT FLOW CONVERGENCE VALUE= .2461 CRITERION= .3015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 53
 *** TIME = .765587E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1784E-05 OSCILLATION LIMIT = .4796
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.93 CRITERION= .3138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3110
 HT FLOW CONVERGENCE VALUE= .2380 CRITERION= .3014 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 54
 *** TIME = .792474E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1468E-05 OSCILLATION LIMIT = .3948
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.85 CRITERION= .3136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3109
 HT FLOW CONVERGENCE VALUE= .2467 CRITERION= .3012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 55
 *** TIME = .819360E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1777E-05 OSCILLATION LIMIT = .4778
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.93 CRITERION= .3135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3111

HT FLOW CONVERGENCE VALUE= .2412 CRITERION= .3011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 56
 *** TIME = .846246E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1414E-05 OSCILLATION LIMIT = .3801
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.85 CRITERION= .3134
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3108
 HT FLOW CONVERGENCE VALUE= .2507 CRITERION= .3010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 57
 *** TIME = .873133E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1752E-05 OSCILLATION LIMIT = .4711
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.93 CRITERION= .3133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3111
 HT FLOW CONVERGENCE VALUE= .2427 CRITERION= .3009 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 58
 *** TIME = .900019E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1379E-05 OSCILLATION LIMIT = .3707
 *** AUTO STEP TIME: NEXT TIME INC = .26886E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.85 CRITERION= .3132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3108
 HT FLOW CONVERGENCE VALUE= .2528 CRITERION= .3007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 59
 *** TIME = .926906E+07 TIME INC = 268864.
 *** RESPONSE EIGENVALUE = .1720E-05 OSCILLATION LIMIT = .4625
 *** AUTO TIME STEP: NEXT TIME INC = .19826E+06 DECREASED (FACTOR = .7374)

HT FLOW CONVERGENCE VALUE= 64.13 CRITERION= .3075
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2296
 HT FLOW CONVERGENCE VALUE= .1798 CRITERION= .3007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 60
 *** TIME = .946731E+07 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .1876E-05 OSCILLATION LIMIT = .3719

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:00:07 JUN 11, 1995 CP= 3251.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1734
 HT FLOW CONVERGENCE VALUE= .1429 CRITERION= .3006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 61
 *** TIME = .966557E+07 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2746E-05 OSCILLATION LIMIT = .5444
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.38 CRITERION= .3045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1332 CRITERION= .3005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 62
 *** TIME = .986382E+07 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2446E-05 OSCILLATION LIMIT = .4849
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1427 CRITERION= .3004 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 63
 *** TIME = .100621E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2308E-05 OSCILLATION LIMIT = .4575
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.38 CRITERION= .3043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1359 CRITERION= .3003 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 64
 *** TIME = .102603E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2075E-05 OSCILLATION LIMIT = .4114
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3042
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1447 CRITERION= .3002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 65
 *** TIME = .104586E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2397E-05 OSCILLATION LIMIT = .4752
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.38 CRITERION= .3041
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1388 CRITERION= .3001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 66
 *** TIME = .106568E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .1920E-05 OSCILLATION LIMIT = .3807
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3040
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1445 CRITERION= .3000 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 67
 *** TIME = .108551E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2370E-05 OSCILLATION LIMIT = .4698
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.38 CRITERION= .3039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1403 CRITERION= .2999 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 68
 *** TIME = .110534E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .1839E-05 OSCILLATION LIMIT = .3646
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3038
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1452 CRITERION= .2998 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 69
 *** TIME = .112516E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2307E-05 OSCILLATION LIMIT = .4574
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.38 CRITERION= .3037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1404 CRITERION= .2998 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 70
 *** TIME = .114499E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .1788E-05 OSCILLATION LIMIT = .3544

*** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3036
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1452 CRITERION= .2997 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 71
 *** TIME = .116481E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2239E-05 OSCILLATION LIMIT = .4439
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.38 CRITERION= .3035
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1418 CRITERION= .2996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 72
 *** TIME = .118464E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .1747E-05 OSCILLATION LIMIT = .3463
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3034
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1459 CRITERION= .2995 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 73
 *** TIME = .120446E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2177E-05 OSCILLATION LIMIT = .4317
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.38 CRITERION= .3033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1419 CRITERION= .2994 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 74
 *** TIME = .122429E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .1717E-05 OSCILLATION LIMIT = .3403
 *** AUTO STEP TIME: NEXT TIME INC = .19826E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .3033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1731
 HT FLOW CONVERGENCE VALUE= .1455 CRITERION= .2993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 75
 *** TIME = .124411E+08 TIME INC = 198255.
 *** RESPONSE EIGENVALUE = .2121E-05 OSCILLATION LIMIT = .4204
 *** AUTO TIME STEP: NEXT TIME INC = .18193E+06 DECREASED (FACTOR = .9177)

HT FLOW CONVERGENCE VALUE= 44.40 CRITERION= .3026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1589
 HT FLOW CONVERGENCE VALUE= .1299 CRITERION= .2992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 16 COMPLETED. CUM ITER = 76
 *** TIME = .126231E+08 TIME INC = 181932.
 *** RESPONSE EIGENVALUE = .1829E-05 OSCILLATION LIMIT = .3328

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:17:15 JUN 11, 1995 CP= 4266.740
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 35.94 CRITERION= .3014
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1288
 HT FLOW CONVERGENCE VALUE= .1088 CRITERION= .2992 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 77

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*** TIME = .128050E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2623E-05    OSCILLATION LIMIT = .4773
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.97    CRITERION= .3013
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1030    CRITERION= .2991    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 78
*** TIME = .129869E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2595E-05    OSCILLATION LIMIT = .4721
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.94    CRITERION= .3012
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1085    CRITERION= .2990    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 79
*** TIME = .131689E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2386E-05    OSCILLATION LIMIT = .4340
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.97    CRITERION= .3011
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1048    CRITERION= .2989    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 80
*** TIME = .133508E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2250E-05    OSCILLATION LIMIT = .4094
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.94    CRITERION= .3011
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1087    CRITERION= .2988    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 81
*** TIME = .135327E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2501E-05    OSCILLATION LIMIT = .4550
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.97    CRITERION= .3010
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1061    CRITERION= .2987    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 82
*** TIME = .137147E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2128E-05    OSCILLATION LIMIT = .3871
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.94    CRITERION= .3009
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1091    CRITERION= .2987    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 83
*** TIME = .138966E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2494E-05    OSCILLATION LIMIT = .4537
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.97    CRITERION= .3008
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1062    CRITERION= .2986    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 84
*** TIME = .140785E+08    TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2076E-05    OSCILLATION LIMIT = .3777
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 35.94    CRITERION= .3007
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
    HT FLOW CONVERGENCE VALUE= .1089    CRITERION= .2985    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 85
*** TIME = .142605E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2451E-05 OSCILLATION LIMIT = .4459
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.97 CRITERION= .3007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
HT FLOW CONVERGENCE VALUE= .1063 CRITERION= .2984 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 86
*** TIME = .144424E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2045E-05 OSCILLATION LIMIT = .3721
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.94 CRITERION= .3006
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
HT FLOW CONVERGENCE VALUE= .1088 CRITERION= .2983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 87
*** TIME = .146243E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2405E-05 OSCILLATION LIMIT = .4376
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.97 CRITERION= .3005
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .2983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 88
*** TIME = .148063E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2024E-05 OSCILLATION LIMIT = .3682
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.94 CRITERION= .3004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
HT FLOW CONVERGENCE VALUE= .1096 CRITERION= .2982 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 89
*** TIME = .149882E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2364E-05 OSCILLATION LIMIT = .4301
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.97 CRITERION= .3003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
HT FLOW CONVERGENCE VALUE= .1073 CRITERION= .2981 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 90
*** TIME = .151701E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2009E-05 OSCILLATION LIMIT = .3655
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.94 CRITERION= .3002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
HT FLOW CONVERGENCE VALUE= .1093 CRITERION= .2980 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 91
*** TIME = .153521E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .2326E-05 OSCILLATION LIMIT = .4231
*** AUTO STEP TIME: NEXT TIME INC = .18193E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 35.97 CRITERION= .3002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1287
HT FLOW CONVERGENCE VALUE= .1074 CRITERION= .2979 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 92
*** TIME = .155340E+08 TIME INC = 181932.
*** RESPONSE EIGENVALUE = .1995E-05 OSCILLATION LIMIT = .3629
*** AUTO STEP TIME: NEXT TIME INC = .12242E+06 DECREASED (FACTOR = .6729)

HT FLOW CONVERGENCE VALUE= 24.19 CRITERION= .2989

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8661E-01
 HT FLOW CONVERGENCE VALUE= .7292E-01 CRITERION= .2979 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 93
 *** TIME = .156564E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .3407E-05 OSCILLATION LIMIT = .4170
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.22 CRITERION= .2989
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8661E-01
 HT FLOW CONVERGENCE VALUE= .7176E-01 CRITERION= .2978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 18 COMPLETED. CUM ITER = 94
 *** TIME = .157788E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2444E-05 OSCILLATION LIMIT = .2992

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:36:30 JUN 11, 1995 CP= 5408.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7306E-01
 HT FLOW CONVERGENCE VALUE= .6299E-01 CRITERION= .2978 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 95
 *** TIME = .159013E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2639E-05 OSCILLATION LIMIT = .3231
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .5929E-01 CRITERION= .2977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 96
 *** TIME = .160237E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .3193E-05 OSCILLATION LIMIT = .3909
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6207E-01 CRITERION= .2977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 97
 *** TIME = .161461E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2837E-05 OSCILLATION LIMIT = .3473
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2984
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6006E-01 CRITERION= .2976 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 98
 *** TIME = .162685E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2702E-05 OSCILLATION LIMIT = .3307
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6176E-01 CRITERION= .2976 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 99
 *** TIME = .163909E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2952E-05 OSCILLATION LIMIT = .3614
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6067E-01 CRITERION= .2975 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 100
 *** TIME = .165134E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2602E-05 OSCILLATION LIMIT = .3186
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6201E-01 CRITERION= .2975 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 101
 *** TIME = .166358E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2912E-05 OSCILLATION LIMIT = .3566
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6072E-01 CRITERION= .2974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 102
 *** TIME = .167582E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2564E-05 OSCILLATION LIMIT = .3139
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6191E-01 CRITERION= .2974 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 103
 *** TIME = .168806E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2859E-05 OSCILLATION LIMIT = .3500
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6074E-01 CRITERION= .2973 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 104
 *** TIME = .170031E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2536E-05 OSCILLATION LIMIT = .3105
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6180E-01 CRITERION= .2972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 105
 *** TIME = .171255E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2810E-05 OSCILLATION LIMIT = .3440
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6123E-01 CRITERION= .2972 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 106
 *** TIME = .172479E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2514E-05 OSCILLATION LIMIT = .3077
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.36 CRITERION= .2979
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6218E-01 CRITERION= .2971 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 107
 *** TIME = .173703E+08 TIME INC = 122422.

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*** RESPONSE EIGENVALUE = .2767E-05  OSCILLATION LIMIT = .3387
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.37  CRITERION= .2978
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6125E-01 CRITERION= .2971  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED.  CUM ITER = 108
*** TIME = .174927E+08  TIME INC = 122422.
*** RESPONSE EIGENVALUE = .2496E-05  OSCILLATION LIMIT = .3056
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.36  CRITERION= .2978
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6210E-01 CRITERION= .2970  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED.  CUM ITER = 109
*** TIME = .176152E+08  TIME INC = 122422.
*** RESPONSE EIGENVALUE = .2729E-05  OSCILLATION LIMIT = .3341
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.37  CRITERION= .2977
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6128E-01 CRITERION= .2970  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED.  CUM ITER = 110
*** TIME = .177376E+08  TIME INC = 122422.
*** RESPONSE EIGENVALUE = .2481E-05  OSCILLATION LIMIT = .3037
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.36  CRITERION= .2977
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6204E-01 CRITERION= .2969  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED.  CUM ITER = 111
*** TIME = .178600E+08  TIME INC = 122422.
*** RESPONSE EIGENVALUE = .2695E-05  OSCILLATION LIMIT = .3299
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.37  CRITERION= .2976
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6175E-01 CRITERION= .2969  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED.  CUM ITER = 112
*** TIME = .179824E+08  TIME INC = 122422.
*** RESPONSE EIGENVALUE = .2468E-05  OSCILLATION LIMIT = .3021
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.36  CRITERION= .2976
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6247E-01 CRITERION= .2968  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED.  CUM ITER = 113
*** TIME = .181049E+08  TIME INC = 122422.
*** RESPONSE EIGENVALUE = .2665E-05  OSCILLATION LIMIT = .3262
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.37  CRITERION= .2975
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6181E-01 CRITERION= .2968  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED.  CUM ITER = 114
*** TIME = .182273E+08  TIME INC = 122422.
*** RESPONSE EIGENVALUE = .2455E-05  OSCILLATION LIMIT = .3005
*** AUTO STEP TIME:  NEXT TIME INC = .12242E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.36  CRITERION= .2975
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
  HT FLOW CONVERGENCE VALUE= .6256E-01 CRITERION= .2967  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 115
 *** TIME = .183497E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2637E-05 OSCILLATION LIMIT = .3228
 *** AUTO STEP TIME: NEXT TIME INC = .12242E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.37 CRITERION= .2974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7296E-01
 HT FLOW CONVERGENCE VALUE= .6215E-01 CRITERION= .2967 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 116
 *** TIME = .184721E+08 TIME INC = 122422.
 *** RESPONSE EIGENVALUE = .2445E-05 OSCILLATION LIMIT = .2993
 *** AUTO TIME STEP: NEXT TIME INC = .20449E+06 INCREASED (FACTOR = 1.6703)

HT FLOW CONVERGENCE VALUE= 33.99 CRITERION= .2986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1219
 HT FLOW CONVERGENCE VALUE= .1070 CRITERION= .2966 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 23 COMPLETED. CUM ITER = 117
 *** TIME = .186766E+08 TIME INC = 204486.
 *** RESPONSE EIGENVALUE = .1841E-05 OSCILLATION LIMIT = .3765
 *** AUTO TIME STEP: NEXT TIME INC = .12899E+06 DECREASED (FACTOR = .6308)

HT FLOW CONVERGENCE VALUE= 21.47 CRITERION= .2973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7687E-01
 HT FLOW CONVERGENCE VALUE= .6585E-01 CRITERION= .2965 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 24 COMPLETED. CUM ITER = 118
 *** TIME = .188056E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .3011E-05 OSCILLATION LIMIT = .3883
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.45 CRITERION= .2973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7687E-01
 HT FLOW CONVERGENCE VALUE= .6627E-01 CRITERION= .2965 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 25 COMPLETED. CUM ITER = 119
 *** TIME = .189346E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .3075E-05 OSCILLATION LIMIT = .3967

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:03:12 JUN 11, 1995 CP= 6991.030
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2971
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5867E-01 CRITERION= .2964 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 120
 *** TIME = .190636E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2238E-05 OSCILLATION LIMIT = .2886
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2970
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5741E-01 CRITERION= .2964 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 121
 *** TIME = .191926E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .3551E-05 OSCILLATION LIMIT = .4581
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01

HT FLOW CONVERGENCE VALUE= .5799E-01 CRITERION= .2963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 122
 *** TIME = .193216E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2599E-05 OSCILLATION LIMIT = .3352
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2969
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5793E-01 CRITERION= .2962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 123
 *** TIME = .194506E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .3084E-05 OSCILLATION LIMIT = .3978
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5779E-01 CRITERION= .2962 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 124
 *** TIME = .195795E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2761E-05 OSCILLATION LIMIT = .3562
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5805E-01 CRITERION= .2961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 125
 *** TIME = .197085E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2987E-05 OSCILLATION LIMIT = .3853
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5801E-01 CRITERION= .2961 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 126
 *** TIME = .198375E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2783E-05 OSCILLATION LIMIT = .3590
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2967
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5821E-01 CRITERION= .2960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 127
 *** TIME = .199665E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2953E-05 OSCILLATION LIMIT = .3810
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5811E-01 CRITERION= .2960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 128
 *** TIME = .200955E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2784E-05 OSCILLATION LIMIT = .3591
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5862E-01 CRITERION= .2959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 129
 *** TIME = .202245E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2931E-05 OSCILLATION LIMIT = .3781
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5841E-01 CRITERION= .2959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 130
 *** TIME = .203535E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2781E-05 OSCILLATION LIMIT = .3587
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2965
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5858E-01 CRITERION= .2958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 131
 *** TIME = .204825E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2914E-05 OSCILLATION LIMIT = .3758
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5839E-01 CRITERION= .2958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 132
 *** TIME = .206115E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2776E-05 OSCILLATION LIMIT = .3581
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2964
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5854E-01 CRITERION= .2957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 133
 *** TIME = .207405E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2896E-05 OSCILLATION LIMIT = .3736
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2963
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5836E-01 CRITERION= .2957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 134
 *** TIME = .208695E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2770E-05 OSCILLATION LIMIT = .3573
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2962
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5850E-01 CRITERION= .2956 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 135
 *** TIME = .209984E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2881E-05 OSCILLATION LIMIT = .3716
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2962
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5842E-01 CRITERION= .2955 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 136
 *** TIME = .211274E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2764E-05 OSCILLATION LIMIT = .3565
 *** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2961
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
 HT FLOW CONVERGENCE VALUE= .5875E-01 CRITERION= .2955 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 137
 *** TIME = .212564E+08 TIME INC = 128991.
 *** RESPONSE EIGENVALUE = .2867E-05 OSCILLATION LIMIT = .3699

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*** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2961
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
HT FLOW CONVERGENCE VALUE= .5858E-01 CRITERION= .2954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 138
*** TIME = .213854E+08 TIME INC = 128991.
*** RESPONSE EIGENVALUE = .2758E-05 OSCILLATION LIMIT = .3558
*** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2960
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
HT FLOW CONVERGENCE VALUE= .5870E-01 CRITERION= .2954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 139
*** TIME = .215144E+08 TIME INC = 128991.
*** RESPONSE EIGENVALUE = .2855E-05 OSCILLATION LIMIT = .3683
*** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2960
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
HT FLOW CONVERGENCE VALUE= .5856E-01 CRITERION= .2953 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 140
*** TIME = .216434E+08 TIME INC = 128991.
*** RESPONSE EIGENVALUE = .2752E-05 OSCILLATION LIMIT = .3550
*** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2959
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
HT FLOW CONVERGENCE VALUE= .5866E-01 CRITERION= .2953 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 141
*** TIME = .217724E+08 TIME INC = 128991.
*** RESPONSE EIGENVALUE = .2843E-05 OSCILLATION LIMIT = .3667
*** AUTO STEP TIME: NEXT TIME INC = .12899E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.76 CRITERION= .2959
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6714E-01
HT FLOW CONVERGENCE VALUE= .5853E-01 CRITERION= .2952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 142
*** TIME = .219014E+08 TIME INC = 128991.
*** RESPONSE EIGENVALUE = .2745E-05 OSCILLATION LIMIT = .3541
*** AUTO TIME STEP: NEXT TIME INC = 94484. DECREASED (FACTOR = .7325)

HT FLOW CONVERGENCE VALUE= 13.73 CRITERION= .2955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4918E-01
HT FLOW CONVERGENCE VALUE= .4268E-01 CRITERION= .2952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 143
*** TIME = .219959E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3564E-05 OSCILLATION LIMIT = .3367
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.75 CRITERION= .2955
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4918E-01
HT FLOW CONVERGENCE VALUE= .4265E-01 CRITERION= .2951 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 144
*** TIME = .220904E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3153E-05 OSCILLATION LIMIT = .2979

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 13:29:55 JUN 11, 1995 CP= 8574.490
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 12.26      CRITERION= .2954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3865E-01 CRITERION= .2951 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 145
*** TIME = .221848E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .2937E-05 OSCILLATION LIMIT = .2775
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28      CRITERION= .2954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3770E-01 CRITERION= .2951 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 146
*** TIME = .222793E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3671E-05 OSCILLATION LIMIT = .3469
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26      CRITERION= .2953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3823E-01 CRITERION= .2950 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 147
*** TIME = .223738E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3303E-05 OSCILLATION LIMIT = .3121
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28      CRITERION= .2953
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3794E-01 CRITERION= .2950 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 148
*** TIME = .224683E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3327E-05 OSCILLATION LIMIT = .3143
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26      CRITERION= .2952
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3816E-01 CRITERION= .2949 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 149
*** TIME = .225628E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3379E-05 OSCILLATION LIMIT = .3192
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28      CRITERION= .2952
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3799E-01 CRITERION= .2949 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 150
*** TIME = .226573E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3284E-05 OSCILLATION LIMIT = .3103
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26      CRITERION= .2952
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3817E-01 CRITERION= .2949 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 151
*** TIME = .227517E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3366E-05 OSCILLATION LIMIT = .3181
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28      CRITERION= .2951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3802E-01 CRITERION= .2948 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 152
*** TIME = .228462E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3263E-05 OSCILLATION LIMIT = .3083
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26 CRITERION= .2951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3822E-01 CRITERION= .2948 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 153
*** TIME = .229407E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3349E-05 OSCILLATION LIMIT = .3164
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28 CRITERION= .2950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3806E-01 CRITERION= .2947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 154
*** TIME = .230352E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3246E-05 OSCILLATION LIMIT = .3067
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26 CRITERION= .2950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3821E-01 CRITERION= .2947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 155
*** TIME = .231297E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3332E-05 OSCILLATION LIMIT = .3149
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28 CRITERION= .2950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3805E-01 CRITERION= .2947 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 156
*** TIME = .232242E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3230E-05 OSCILLATION LIMIT = .3052
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26 CRITERION= .2949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3819E-01 CRITERION= .2946 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 157
*** TIME = .233186E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3316E-05 OSCILLATION LIMIT = .3133
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28 CRITERION= .2949
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3805E-01 CRITERION= .2946 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 158
*** TIME = .234131E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3216E-05 OSCILLATION LIMIT = .3038
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26 CRITERION= .2948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3817E-01 CRITERION= .2945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 159
*** TIME = .235076E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3300E-05 OSCILLATION LIMIT = .3118
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28 CRITERION= .2948

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3802E-01 CRITERION= .2945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 160
*** TIME = .236021E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3202E-05 OSCILLATION LIMIT = .3025
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26 CRITERION= .2948
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .2945 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 161
*** TIME = .236966E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3284E-05 OSCILLATION LIMIT = .3103
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28 CRITERION= .2947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3803E-01 CRITERION= .2944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 162
*** TIME = .237911E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3189E-05 OSCILLATION LIMIT = .3013
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26 CRITERION= .2947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3812E-01 CRITERION= .2944 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 163
*** TIME = .238856E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3268E-05 OSCILLATION LIMIT = .3088
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28 CRITERION= .2946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3800E-01 CRITERION= .2943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 164
*** TIME = .239800E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3176E-05 OSCILLATION LIMIT = .3001
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.26 CRITERION= .2946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3817E-01 CRITERION= .2943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 165
*** TIME = .240745E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3253E-05 OSCILLATION LIMIT = .3074
*** AUTO STEP TIME: NEXT TIME INC = 94484. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.28 CRITERION= .2946
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4394E-01
HT FLOW CONVERGENCE VALUE= .3808E-01 CRITERION= .2943 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 166
*** TIME = .241690E+08 TIME INC = 94484.5
*** RESPONSE EIGENVALUE = .3163E-05 OSCILLATION LIMIT = .2989
*** AUTO STEP TIME: NEXT TIME INC = .15806E+06 INCREASED (FACTOR = 1.6729)

HT FLOW CONVERGENCE VALUE= 20.50 CRITERION= .2950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7350E-01
HT FLOW CONVERGENCE VALUE= .6444E-01 CRITERION= .2942 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 167
*** TIME = .243271E+08 TIME INC = 158059.
*** RESPONSE EIGENVALUE = .2439E-05 OSCILLATION LIMIT = .3854
*** AUTO STEP TIME: NEXT TIME INC = .15806E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .2949
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7350E-01
 HT FLOW CONVERGENCE VALUE= .6398E-01 CRITERION= .2941 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 168
 *** TIME = .244851E+08 TIME INC = 158059.
 *** RESPONSE EIGENVALUE = .2767E-05 OSCILLATION LIMIT = .4374
 *** AUTO STEP TIME: NEXT TIME INC = .15806E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.50 CRITERION= .2949
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7350E-01
 HT FLOW CONVERGENCE VALUE= .6358E-01 CRITERION= .2941 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 169
 *** TIME = .246432E+08 TIME INC = 158059.
 *** RESPONSE EIGENVALUE = .3188E-05 OSCILLATION LIMIT = .5039
 *** AUTO STEP TIME: NEXT TIME INC = .15806E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .2948
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7350E-01
 HT FLOW CONVERGENCE VALUE= .6387E-01 CRITERION= .2940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 170
 *** TIME = .248012E+08 TIME INC = 158059.
 *** RESPONSE EIGENVALUE = .2895E-05 OSCILLATION LIMIT = .4575
 *** AUTO STEP TIME: NEXT TIME INC = .15806E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.50 CRITERION= .2947
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7350E-01
 HT FLOW CONVERGENCE VALUE= .6383E-01 CRITERION= .2939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 171
 *** TIME = .249593E+08 TIME INC = 158059.
 *** RESPONSE EIGENVALUE = .3063E-05 OSCILLATION LIMIT = .4842
 *** AUTO STEP TIME: NEXT TIME INC = .15806E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .2947
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7350E-01
 HT FLOW CONVERGENCE VALUE= .6380E-01 CRITERION= .2939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 172
 *** TIME = .251174E+08 TIME INC = 158059.
 *** RESPONSE EIGENVALUE = .2948E-05 OSCILLATION LIMIT = .4660
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 DECREASED (FACTOR = .8146)

HT FLOW CONVERGENCE VALUE= 16.70 CRITERION= .2944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5987E-01
 HT FLOW CONVERGENCE VALUE= .5172E-01 CRITERION= .2938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 173
 *** TIME = .252461E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3451E-05 OSCILLATION LIMIT = .4443

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:00:57 JUN 11, 1995 CP= 10412.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4691E-01 CRITERION= .2938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 174
 *** TIME = .253749E+08 TIME INC = 128750.


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*** RESPONSE EIGENVALUE = .3295E-05  OSCILLATION LIMIT = .4243
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.14  CRITERION= .2942
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4659E-01 CRITERION= .2937  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED.  CUM ITER = 175
*** TIME = .255036E+08  TIME INC = 128750.
*** RESPONSE EIGENVALUE = .3661E-05  OSCILLATION LIMIT = .4713
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.16  CRITERION= .2941
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4685E-01 CRITERION= .2937  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED.  CUM ITER = 176
*** TIME = .256324E+08  TIME INC = 128750.
*** RESPONSE EIGENVALUE = .3298E-05  OSCILLATION LIMIT = .4247
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.14  CRITERION= .2941
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4676E-01 CRITERION= .2936  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED.  CUM ITER = 177
*** TIME = .257611E+08  TIME INC = 128750.
*** RESPONSE EIGENVALUE = .3490E-05  OSCILLATION LIMIT = .4493
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.16  CRITERION= .2940
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4681E-01 CRITERION= .2936  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED.  CUM ITER = 178
*** TIME = .258899E+08  TIME INC = 128750.
*** RESPONSE EIGENVALUE = .3369E-05  OSCILLATION LIMIT = .4338
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.14  CRITERION= .2940
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4677E-01 CRITERION= .2935  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED.  CUM ITER = 179
*** TIME = .260186E+08  TIME INC = 128750.
*** RESPONSE EIGENVALUE = .3451E-05  OSCILLATION LIMIT = .4443
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.16  CRITERION= .2939
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4677E-01 CRITERION= .2935  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED.  CUM ITER = 180
*** TIME = .261474E+08  TIME INC = 128750.
*** RESPONSE EIGENVALUE = .3377E-05  OSCILLATION LIMIT = .4347
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.14  CRITERION= .2939
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4675E-01 CRITERION= .2934  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED.  CUM ITER = 181
*** TIME = .262761E+08  TIME INC = 128750.
*** RESPONSE EIGENVALUE = .3438E-05  OSCILLATION LIMIT = .4427
*** AUTO STEP TIME:  NEXT TIME INC = .12875E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 15.16  CRITERION= .2938
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
  HT FLOW CONVERGENCE VALUE= .4674E-01 CRITERION= .2934  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 182
 *** TIME = .264049E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3374E-05 OSCILLATION LIMIT = .4344
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4672E-01 CRITERION= .2933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 183
 *** TIME = .265336E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3430E-05 OSCILLATION LIMIT = .4416
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4671E-01 CRITERION= .2933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 184
 *** TIME = .266624E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3370E-05 OSCILLATION LIMIT = .4339
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4670E-01 CRITERION= .2932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 185
 *** TIME = .267911E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3423E-05 OSCILLATION LIMIT = .4407
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4669E-01 CRITERION= .2931 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 186
 *** TIME = .269199E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3365E-05 OSCILLATION LIMIT = .4333
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4669E-01 CRITERION= .2931 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 187
 *** TIME = .270486E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3416E-05 OSCILLATION LIMIT = .4398
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4669E-01 CRITERION= .2930 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 188
 *** TIME = .271774E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3361E-05 OSCILLATION LIMIT = .4327
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2934
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4668E-01 CRITERION= .2930 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 189
 *** TIME = .273061E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3410E-05 OSCILLATION LIMIT = .4390
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2934
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01

HT FLOW CONVERGENCE VALUE= .4666E-01 CRITERION= .2929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 190
 *** TIME = .274349E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3356E-05 OSCILLATION LIMIT = .4320
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2933
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4665E-01 CRITERION= .2929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 191
 *** TIME = .275636E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3404E-05 OSCILLATION LIMIT = .4382
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2933
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4665E-01 CRITERION= .2928 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 192
 *** TIME = .276924E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3350E-05 OSCILLATION LIMIT = .4314
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2932
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4665E-01 CRITERION= .2928 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 193
 *** TIME = .278211E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3398E-05 OSCILLATION LIMIT = .4374
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2932
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4663E-01 CRITERION= .2927 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 194
 *** TIME = .279499E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3345E-05 OSCILLATION LIMIT = .4307
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2931
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4664E-01 CRITERION= .2927 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 195
 *** TIME = .280786E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3392E-05 OSCILLATION LIMIT = .4367
 *** AUTO STEP TIME: NEXT TIME INC = .12875E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.16 CRITERION= .2931
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5426E-01
 HT FLOW CONVERGENCE VALUE= .4662E-01 CRITERION= .2926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 196
 *** TIME = .282074E+08 TIME INC = 128750.
 *** RESPONSE EIGENVALUE = .3341E-05 OSCILLATION LIMIT = .4301
 *** AUTO TIME STEP: NEXT TIME INC = 97259. DECREASED (FACTOR = .7554)

HT FLOW CONVERGENCE VALUE= 11.44 CRITERION= .2928
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4099E-01
 HT FLOW CONVERGENCE VALUE= .3497E-01 CRITERION= .2926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 197
 *** TIME = .283046E+08 TIME INC = 97258.9
 *** RESPONSE EIGENVALUE = .4005E-05 OSCILLATION LIMIT = .3895
 *** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.46 CRITERION= .2928
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4099E-01
HT FLOW CONVERGENCE VALUE= .3503E-01 CRITERION= .2925 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 198
*** TIME = .284019E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3678E-05 OSCILLATION LIMIT = .3577
Apply loads and solve for 1 to 9 years

*DO LOOP ON PARAMETER= TM FROM .31558E+08 TO .28402E+09 BY .31558E+08
TIME= .31558E+08

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5654.64534 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 117.39 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 118.50 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 121.02 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 11997.730 TIME= 14:27:43
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1
***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 14:27:43 JUN 11, 1995 CP= 11997.730
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 13
TIME AT END OF THE LOAD STEP.31558E+08
AUTOMATIC TIME STEPPING ON

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INITIAL NUMBER OF SUBSTEPS . . . . . 10
MAXIMUM NUMBER OF SUBSTEPS . . . . . 40
MINIMUM NUMBER OF SUBSTEPS . . . . . 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS . . . . . NO
TRANSIENT (INERTIA) EFFECTS
  THERMAL DOFS . . . . . ON
TRANSIENT INTEGRATION PARAMETERS
  THETA. . . . . .50000
  OSCILLATION LIMIT CRITERION. . . . . .50000
  TOLERANCE. . . . . .20000
TERMINATE ANALYSIS IF NOT CONVERGED . . . . .YES (EXIT)
CONVERGENCE CONTROLS. . . . .USE DEFAULTS
PRINT OUTPUT CONTROLS . . . . .NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . .ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP

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HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2927
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3257E-01 CRITERION= .2925 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 199
*** TIME = .284991E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3438E-05 OSCILLATION LIMIT = .3344
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2927
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3204E-01 CRITERION= .2925 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 200
*** TIME = .285964E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .4095E-05 OSCILLATION LIMIT = .3983
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2927
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3231E-01 CRITERION= .2924 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 201
*** TIME = .286936E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3757E-05 OSCILLATION LIMIT = .3654
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2926
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3219E-01 CRITERION= .2924 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 202
*** TIME = .287909E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3820E-05 OSCILLATION LIMIT = .3716
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2926
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3229E-01 CRITERION= .2923 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 203
*** TIME = .288882E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3830E-05 OSCILLATION LIMIT = .3725
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2925
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3220E-01 CRITERION= .2923 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 204
*** TIME = .289854E+08 TIME INC = 97258.9

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*** RESPONSE EIGENVALUE = .3789E-05  OSCILLATION LIMIT = .3685
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54  CRITERION= .2925
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3227E-01 CRITERION= .2923  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 205
*** TIME = .290827E+08  TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3829E-05  OSCILLATION LIMIT = .3724
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56  CRITERION= .2925
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3219E-01 CRITERION= .2922  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 206
*** TIME = .291799E+08  TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3775E-05  OSCILLATION LIMIT = .3672
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54  CRITERION= .2924
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3226E-01 CRITERION= .2922  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 207
*** TIME = .292772E+08  TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3822E-05  OSCILLATION LIMIT = .3717
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56  CRITERION= .2924
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3218E-01 CRITERION= .2921  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 208
*** TIME = .293745E+08  TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3764E-05  OSCILLATION LIMIT = .3661
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54  CRITERION= .2923
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3223E-01 CRITERION= .2921  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 209
*** TIME = .294717E+08  TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3815E-05  OSCILLATION LIMIT = .3710
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56  CRITERION= .2923
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3215E-01 CRITERION= .2921  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 210
*** TIME = .295690E+08  TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3755E-05  OSCILLATION LIMIT = .3652
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54  CRITERION= .2923
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3222E-01 CRITERION= .2920  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 211
*** TIME = .296662E+08  TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3806E-05  OSCILLATION LIMIT = .3702
*** AUTO STEP TIME: NEXT TIME INC = 97259.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56  CRITERION= .2922
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .2920  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 212
*** TIME = .297635E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3746E-05 OSCILLATION LIMIT = .3643
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2922
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3224E-01 CRITERION= .2919 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 213
*** TIME = .298608E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3798E-05 OSCILLATION LIMIT = .3694
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .2919 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 214
*** TIME = .299580E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3738E-05 OSCILLATION LIMIT = .3635
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3223E-01 CRITERION= .2919 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 215
*** TIME = .300553E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3790E-05 OSCILLATION LIMIT = .3686
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3216E-01 CRITERION= .2918 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 216
*** TIME = .301525E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3730E-05 OSCILLATION LIMIT = .3628
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2920
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3222E-01 CRITERION= .2918 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 217
*** TIME = .302498E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3782E-05 OSCILLATION LIMIT = .3679
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2920
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3215E-01 CRITERION= .2918 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 218
*** TIME = .303470E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3723E-05 OSCILLATION LIMIT = .3621
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2919
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3221E-01 CRITERION= .2917 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 219
*** TIME = .304443E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3775E-05 OSCILLATION LIMIT = .3671
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2919
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01

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HT FLOW CONVERGENCE VALUE= .3215E-01 CRITERION= .2917 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 220
*** TIME = .305416E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3716E-05 OSCILLATION LIMIT = .3614
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2919
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3219E-01 CRITERION= .2916 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 221
*** TIME = .306388E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3767E-05 OSCILLATION LIMIT = .3664
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2918
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3212E-01 CRITERION= .2916 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 222
*** TIME = .307361E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3709E-05 OSCILLATION LIMIT = .3607
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2918
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .2916 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 223
*** TIME = .308333E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3759E-05 OSCILLATION LIMIT = .3656
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2917
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3212E-01 CRITERION= .2915 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 224
*** TIME = .309306E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3702E-05 OSCILLATION LIMIT = .3600
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2917
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3220E-01 CRITERION= .2915 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 225
*** TIME = .310279E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3752E-05 OSCILLATION LIMIT = .3649
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2917
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3212E-01 CRITERION= .2914 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 226
*** TIME = .311251E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3695E-05 OSCILLATION LIMIT = .3593
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2916
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
HT FLOW CONVERGENCE VALUE= .3216E-01 CRITERION= .2914 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 227
*** TIME = .312224E+08 TIME INC = 97258.9
*** RESPONSE EIGENVALUE = .3744E-05 OSCILLATION LIMIT = .3641
*** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .2916
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
 HT FLOW CONVERGENCE VALUE= .3209E-01 CRITERION= .2914 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 228
 *** TIME = .313196E+08 TIME INC = 97258.9
 *** RESPONSE EIGENVALUE = .3688E-05 OSCILLATION LIMIT = .3587
 *** AUTO STEP TIME: NEXT TIME INC = 97259. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.54 CRITERION= .2916
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3779E-01
 HT FLOW CONVERGENCE VALUE= .3214E-01 CRITERION= .2913 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 31 COMPLETED. CUM ITER = 229
 *** TIME = .314169E+08 TIME INC = 97258.9
 *** RESPONSE EIGENVALUE = .3737E-05 OSCILLATION LIMIT = .3634
 *** AUTO STEP TIME: NEXT TIME INC = 70367. DECREASED (FACTOR = .7235)

HT FLOW CONVERGENCE VALUE= 7.646 CRITERION= .2914
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2734E-01
 HT FLOW CONVERGENCE VALUE= .2306E-01 CRITERION= .2913 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 32 COMPLETED. CUM ITER = 230
 *** TIME = .314873E+08 TIME INC = 70367.3
 *** RESPONSE EIGENVALUE = .4366E-05 OSCILLATION LIMIT = .3072
 *** AUTO STEP TIME: NEXT TIME INC = 70367. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.630 CRITERION= .2914
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2734E-01
 HT FLOW CONVERGENCE VALUE= .2312E-01 CRITERION= .2913 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 33 COMPLETED. CUM ITER = 231
 *** TIME = .315576E+08 TIME INC = 70367.3
 *** RESPONSE EIGENVALUE = .4237E-05 OSCILLATION LIMIT = .2981

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:02:59 JUN 11, 1995 CP= 14088.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1934 CRITERION= .2910 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 232
 *** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2473E-05 OSCILLATION LIMIT = 1.951
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.21 CRITERION= .2976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1865 CRITERION= .2908 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 233
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4698E-05 OSCILLATION LIMIT = 3.707
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1873 CRITERION= .2905 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 234

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*** TIME = .339245E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4290E-05    OSCILLATION LIMIT = 3.385
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.21    CRITERION= .2971
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1864    CRITERION= .2902    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 235
*** TIME = .347134E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4492E-05    OSCILLATION LIMIT = 3.544
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.24    CRITERION= .2968
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1868    CRITERION= .2900    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 236
*** TIME = .355023E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4310E-05    OSCILLATION LIMIT = 3.400
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.21    CRITERION= .2966
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1861    CRITERION= .2897    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 237
*** TIME = .362913E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4459E-05    OSCILLATION LIMIT = 3.518
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.24    CRITERION= .2963
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1866    CRITERION= .2894    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 238
*** TIME = .370802E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4318E-05    OSCILLATION LIMIT = 3.406
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.22    CRITERION= .2960
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1860    CRITERION= .2891    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 239
*** TIME = .378692E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4432E-05    OSCILLATION LIMIT = 3.497
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.24    CRITERION= .2958
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1862    CRITERION= .2889    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 240
*** TIME = .386581E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4321E-05    OSCILLATION LIMIT = 3.409
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.22    CRITERION= .2955
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1854    CRITERION= .2886    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 241
*** TIME = .394470E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4408E-05    OSCILLATION LIMIT = 3.478
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 62.24    CRITERION= .2952
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
    HT FLOW CONVERGENCE VALUE= .1858    CRITERION= .2884    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 242
*** TIME = .402360E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4320E-05 OSCILLATION LIMIT = 3.408
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2950
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
HT FLOW CONVERGENCE VALUE= .1850 CRITERION= .2881 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 243
*** TIME = .410249E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4386E-05 OSCILLATION LIMIT = 3.460
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
HT FLOW CONVERGENCE VALUE= .1850 CRITERION= .2878 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 244
*** TIME = .418139E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4314E-05 OSCILLATION LIMIT = 3.404
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2945
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
HT FLOW CONVERGENCE VALUE= .1847 CRITERION= .2875 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 245
*** TIME = .426028E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4365E-05 OSCILLATION LIMIT = 3.444
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2942
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
HT FLOW CONVERGENCE VALUE= .1849 CRITERION= .2873 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 246
*** TIME = .433917E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4305E-05 OSCILLATION LIMIT = 3.397
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2939
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
HT FLOW CONVERGENCE VALUE= .1844 CRITERION= .2870 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 247
*** TIME = .441807E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4346E-05 OSCILLATION LIMIT = 3.429
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2937
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
HT FLOW CONVERGENCE VALUE= .1845 CRITERION= .2868 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 248
*** TIME = .449696E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4298E-05 OSCILLATION LIMIT = 3.391
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2934
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
HT FLOW CONVERGENCE VALUE= .1840 CRITERION= .2865 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 249
*** TIME = .457586E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4330E-05 OSCILLATION LIMIT = 3.416
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2931

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1840 CRITERION= .2862 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 250
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4290E-05 OSCILLATION LIMIT = 3.385
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1836 CRITERION= .2859 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 251
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4316E-05 OSCILLATION LIMIT = 3.405
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2926
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1836 CRITERION= .2857 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 252
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4282E-05 OSCILLATION LIMIT = 3.378
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2924
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1831 CRITERION= .2854 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 253
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4302E-05 OSCILLATION LIMIT = 3.394
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2921
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1830 CRITERION= .2851 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 254
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4273E-05 OSCILLATION LIMIT = 3.371
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2918
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1828 CRITERION= .2849 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 255
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4289E-05 OSCILLATION LIMIT = 3.384
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2916
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1828 CRITERION= .2846 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 256
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4264E-05 OSCILLATION LIMIT = 3.364
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2913
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1844 CRITERION= .2843 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 257
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4277E-05 OSCILLATION LIMIT = 3.374
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2910
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1852 CRITERION= .2841 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 258
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4252E-05 OSCILLATION LIMIT = 3.354
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2908
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1848 CRITERION= .2838 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 259
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4262E-05 OSCILLATION LIMIT = 3.362
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2905
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1848 CRITERION= .2835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 260
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4241E-05 OSCILLATION LIMIT = 3.346
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2903
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1844 CRITERION= .2833 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 261
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4250E-05 OSCILLATION LIMIT = 3.353
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1843 CRITERION= .2830 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 262
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4230E-05 OSCILLATION LIMIT = 3.337
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2897
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1839 CRITERION= .2827 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 263
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4238E-05 OSCILLATION LIMIT = 3.343
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.24 CRITERION= .2895
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1847 CRITERION= .2825 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 264
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4220E-05 OSCILLATION LIMIT = 3.329
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.22 CRITERION= .2892
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2232
 HT FLOW CONVERGENCE VALUE= .1845 CRITERION= .2822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 265
 *** TIME = .583816E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .4230E-05  OSCILLATION LIMIT = 3.337
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.24      CRITERION= .2890
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2232
  HT FLOW CONVERGENCE VALUE= .1860      CRITERION= .2819  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  35 COMPLETED.  CUM ITER =  266
*** TIME = .591705E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .4215E-05  OSCILLATION LIMIT = 3.325
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.22      CRITERION= .2887
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2232
  HT FLOW CONVERGENCE VALUE= .1870      CRITERION= .2816  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  36 COMPLETED.  CUM ITER =  267
*** TIME = .599595E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .4222E-05  OSCILLATION LIMIT = 3.331
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.24      CRITERION= .2884
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2232
  HT FLOW CONVERGENCE VALUE= .1885      CRITERION= .2814  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  37 COMPLETED.  CUM ITER =  268
*** TIME = .607484E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .4207E-05  OSCILLATION LIMIT = 3.319
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.22      CRITERION= .2882
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2232
  HT FLOW CONVERGENCE VALUE= .1895      CRITERION= .2811  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  38 COMPLETED.  CUM ITER =  269
*** TIME = .615374E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .4214E-05  OSCILLATION LIMIT = 3.324
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.24      CRITERION= .2879
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2232
  HT FLOW CONVERGENCE VALUE= .1914      CRITERION= .2809  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  39 COMPLETED.  CUM ITER =  270
*** TIME = .623263E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .4196E-05  OSCILLATION LIMIT = 3.310
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 62.22      CRITERION= .2877
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .2232
  HT FLOW CONVERGENCE VALUE= .1918      CRITERION= .2806  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  40 COMPLETED.  CUM ITER =  271
*** TIME = .631152E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .4201E-05  OSCILLATION LIMIT = 3.314

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX  15:45:42 JUN 11, 1995 CP= 16622.240
FOR SUPPORT CALL ROBERT BAHNEY  PHONE (702) 794-5337  FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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  HT FLOW CONVERGENCE VALUE= 43.05      CRITERION= .2838
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .1548
  HT FLOW CONVERGENCE VALUE= .1286      CRITERION= .2804  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 272
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6761E-05 OSCILLATION LIMIT = 5.334
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2837
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1280 CRITERION= .2801 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 273
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6597E-05 OSCILLATION LIMIT = 5.204
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2834
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1300 CRITERION= .2799 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 274
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5448E-05 OSCILLATION LIMIT = 4.298
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2832
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1281 CRITERION= .2797 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 275
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6524E-05 OSCILLATION LIMIT = 5.147
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2829
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1302 CRITERION= .2795 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 276
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5563E-05 OSCILLATION LIMIT = 4.389
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2827
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1285 CRITERION= .2792 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 277
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6395E-05 OSCILLATION LIMIT = 5.045
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2825
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1303 CRITERION= .2790 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 278
 *** TIME = .686378E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5654E-05 OSCILLATION LIMIT = 4.460
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2823
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1293 CRITERION= .2787 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 279
 *** TIME = .694268E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6295E-05 OSCILLATION LIMIT = 4.966
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2820
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548

HT FLOW CONVERGENCE VALUE= .1306 CRITERION= .2785 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 280
 *** TIME = .702157E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5725E-05 OSCILLATION LIMIT = 4.517
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1293 CRITERION= .2783 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 281
 *** TIME = .710046E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6219E-05 OSCILLATION LIMIT = 4.907
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2816
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1303 CRITERION= .2781 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 282
 *** TIME = .717936E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5773E-05 OSCILLATION LIMIT = 4.555
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2814
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1292 CRITERION= .2778 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 283
 *** TIME = .725825E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6156E-05 OSCILLATION LIMIT = 4.857
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1299 CRITERION= .2776 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 284
 *** TIME = .733715E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5807E-05 OSCILLATION LIMIT = 4.582
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2809
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1290 CRITERION= .2774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 285
 *** TIME = .741604E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6105E-05 OSCILLATION LIMIT = 4.816
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2807
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1296 CRITERION= .2772 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 286
 *** TIME = .749493E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5831E-05 OSCILLATION LIMIT = 4.600
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2805
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1287 CRITERION= .2769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 287
 *** TIME = .757383E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6064E-05 OSCILLATION LIMIT = 4.784
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2802
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1293 CRITERION= .2767 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 288
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5846E-05 OSCILLATION LIMIT = 4.612
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2800
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1285 CRITERION= .2764 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 289
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6030E-05 OSCILLATION LIMIT = 4.757
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2798
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1290 CRITERION= .2762 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 290
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5855E-05 OSCILLATION LIMIT = 4.620
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2796
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1283 CRITERION= .2760 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 291
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6001E-05 OSCILLATION LIMIT = 4.734
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2793
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1287 CRITERION= .2758 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 292
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5860E-05 OSCILLATION LIMIT = 4.623
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2791
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1280 CRITERION= .2755 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 293
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5977E-05 OSCILLATION LIMIT = 4.715
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2789
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1284 CRITERION= .2753 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 294
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5861E-05 OSCILLATION LIMIT = 4.624
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1278 CRITERION= .2751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 295
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5955E-05 OSCILLATION LIMIT = 4.699

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2784
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1281 CRITERION= .2749 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 296
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5859E-05 OSCILLATION LIMIT = 4.623
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1275 CRITERION= .2746 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 297
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5937E-05 OSCILLATION LIMIT = 4.684
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1278 CRITERION= .2744 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 298
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5856E-05 OSCILLATION LIMIT = 4.620
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2778
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1273 CRITERION= .2742 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 299
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5920E-05 OSCILLATION LIMIT = 4.671
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2775
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1276 CRITERION= .2740 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 300
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5851E-05 OSCILLATION LIMIT = 4.616
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1270 CRITERION= .2737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 301
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5906E-05 OSCILLATION LIMIT = 4.659
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.05 CRITERION= .2770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1273 CRITERION= .2735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 302
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5845E-05 OSCILLATION LIMIT = 4.611
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2768
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
 HT FLOW CONVERGENCE VALUE= .1268 CRITERION= .2732 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 303

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*** TIME = .883613E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5891E-05    OSCILLATION LIMIT = 4.648
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.05    CRITERION= .2766
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1270    CRITERION= .2730    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 304
*** TIME = .891503E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5838E-05    OSCILLATION LIMIT = 4.606
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.01    CRITERION= .2764
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1265    CRITERION= .2728    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 305
*** TIME = .899392E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5878E-05    OSCILLATION LIMIT = 4.637
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.05    CRITERION= .2761
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1267    CRITERION= .2726    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 306
*** TIME = .907281E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5830E-05    OSCILLATION LIMIT = 4.599
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.01    CRITERION= .2759
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1262    CRITERION= .2723    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 307
*** TIME = .915171E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5865E-05    OSCILLATION LIMIT = 4.627
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.05    CRITERION= .2757
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1265    CRITERION= .2721    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 308
*** TIME = .923060E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5821E-05    OSCILLATION LIMIT = 4.593
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.01    CRITERION= .2755
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1260    CRITERION= .2719    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 309
*** TIME = .930950E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5853E-05    OSCILLATION LIMIT = 4.617
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.05    CRITERION= .2752
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1262    CRITERION= .2717    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 310
*** TIME = .938839E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5812E-05    OSCILLATION LIMIT = 4.585
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 43.01    CRITERION= .2750
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1548
    HT FLOW CONVERGENCE VALUE= .1258    CRITERION= .2714    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 311
*** TIME = .946728E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5841E-05 OSCILLATION LIMIT = 4.608
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 16:28:30 JUN 11, 1995 CP= 19161.120
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2733
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9285E-01 CRITERION= .2712 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 312
*** TIME = .954618E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7878E-05 OSCILLATION LIMIT = 6.215
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2732
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9231E-01 CRITERION= .2710 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 313
*** TIME = .962507E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7792E-05 OSCILLATION LIMIT = 6.148
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2729
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9356E-01 CRITERION= .2709 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 314
*** TIME = .970397E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6894E-05 OSCILLATION LIMIT = 5.439
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2728
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9225E-01 CRITERION= .2706 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 315
*** TIME = .978286E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7736E-05 OSCILLATION LIMIT = 6.103
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2725
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9331E-01 CRITERION= .2705 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 316
*** TIME = .986175E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6980E-05 OSCILLATION LIMIT = 5.507
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2724
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9219E-01 CRITERION= .2702 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 317
*** TIME = .994065E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7636E-05 OSCILLATION LIMIT = 6.024
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2722

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9307E-01 CRITERION= .2701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 318
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7046E-05 OSCILLATION LIMIT = 5.559
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9209E-01 CRITERION= .2698 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 319
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7558E-05 OSCILLATION LIMIT = 5.962
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9284E-01 CRITERION= .2697 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 320
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7094E-05 OSCILLATION LIMIT = 5.597
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9198E-01 CRITERION= .2694 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 321
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7496E-05 OSCILLATION LIMIT = 5.914
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2714
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9263E-01 CRITERION= .2693 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 322
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7129E-05 OSCILLATION LIMIT = 5.624
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2712
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9186E-01 CRITERION= .2690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 323
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7446E-05 OSCILLATION LIMIT = 5.874
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2710
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9243E-01 CRITERION= .2689 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 324
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7153E-05 OSCILLATION LIMIT = 5.643
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9174E-01 CRITERION= .2687 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 325
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7406E-05 OSCILLATION LIMIT = 5.843
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9224E-01 CRITERION= .2685 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 326
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7170E-05 OSCILLATION LIMIT = 5.657
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2704
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9164E-01 CRITERION= .2683 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 327
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7373E-05 OSCILLATION LIMIT = 5.817
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2702
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9212E-01 CRITERION= .2681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 328
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7180E-05 OSCILLATION LIMIT = 5.665
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2700
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9152E-01 CRITERION= .2679 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 329
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7346E-05 OSCILLATION LIMIT = 5.796
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2698
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9195E-01 CRITERION= .2677 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 330
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7187E-05 OSCILLATION LIMIT = 5.670
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2697
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9139E-01 CRITERION= .2675 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 331
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7323E-05 OSCILLATION LIMIT = 5.777
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2694
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9178E-01 CRITERION= .2673 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 332
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7189E-05 OSCILLATION LIMIT = 5.672
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2693
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9124E-01 CRITERION= .2671 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 333
 *** TIME = .112030E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .7302E-05  OSCILLATION LIMIT = 5.761
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.41  CRITERION= .2690
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9160E-01 CRITERION= .2669  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 334
*** TIME = .112818E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7188E-05  OSCILLATION LIMIT = 5.671
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.37  CRITERION= .2689
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9110E-01 CRITERION= .2667  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 335
*** TIME = .113607E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7284E-05  OSCILLATION LIMIT = 5.747
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.41  CRITERION= .2686
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9154E-01 CRITERION= .2665  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 336
*** TIME = .114396E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7186E-05  OSCILLATION LIMIT = 5.669
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.37  CRITERION= .2685
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9104E-01 CRITERION= .2663  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 337
*** TIME = .115185E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7270E-05  OSCILLATION LIMIT = 5.735
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.41  CRITERION= .2683
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9136E-01 CRITERION= .2661  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 338
*** TIME = .115974E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7183E-05  OSCILLATION LIMIT = 5.667
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.37  CRITERION= .2681
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9091E-01 CRITERION= .2659  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 339
*** TIME = .116763E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7255E-05  OSCILLATION LIMIT = 5.724
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.41  CRITERION= .2679
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9129E-01 CRITERION= .2657  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 340
*** TIME = .117552E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7178E-05  OSCILLATION LIMIT = 5.663
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.37  CRITERION= .2677
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
  HT FLOW CONVERGENCE VALUE= .9082E-01 CRITERION= .2655  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 341
*** TIME = .118341E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7243E-05 OSCILLATION LIMIT = 5.714
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2675
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9112E-01 CRITERION= .2654 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 342
*** TIME = .119130E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7172E-05 OSCILLATION LIMIT = 5.658
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2673
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9069E-01 CRITERION= .2651 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 343
*** TIME = .119919E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7230E-05 OSCILLATION LIMIT = 5.704
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2671
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9105E-01 CRITERION= .2650 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 344
*** TIME = .120708E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7166E-05 OSCILLATION LIMIT = 5.653
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2669
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9059E-01 CRITERION= .2647 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 345
*** TIME = .121497E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7219E-05 OSCILLATION LIMIT = 5.695
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2667
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9087E-01 CRITERION= .2646 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 346
*** TIME = .122286E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7158E-05 OSCILLATION LIMIT = 5.648
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2665
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9049E-01 CRITERION= .2643 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 347
*** TIME = .123075E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7207E-05 OSCILLATION LIMIT = 5.686
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2663
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
HT FLOW CONVERGENCE VALUE= .9078E-01 CRITERION= .2642 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 348
*** TIME = .123864E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7151E-05 OSCILLATION LIMIT = 5.642
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2661
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166

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HT FLOW CONVERGENCE VALUE= .9035E-01 CRITERION= .2639 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 349
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7197E-05 OSCILLATION LIMIT = 5.678
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.41 CRITERION= .2659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9062E-01 CRITERION= .2638 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 350
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7143E-05 OSCILLATION LIMIT = 5.636
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.37 CRITERION= .2658
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1166
 HT FLOW CONVERGENCE VALUE= .9023E-01 CRITERION= .2636 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 351
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7186E-05 OSCILLATION LIMIT = 5.670

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:11:29 JUN 11, 1995 CP= 21705.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7221E-01 CRITERION= .2634 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 352
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7816E-05 OSCILLATION LIMIT = 6.166
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2647
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7184E-01 CRITERION= .2632 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 353
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7723E-05 OSCILLATION LIMIT = 6.093
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2645
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7260E-01 CRITERION= .2631 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 354
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7171E-05 OSCILLATION LIMIT = 5.657
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7177E-01 CRITERION= .2629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 355
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7694E-05 OSCILLATION LIMIT = 6.070
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7244E-01 CRITERION= .2628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 356
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7219E-05 OSCILLATION LIMIT = 5.695
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2641
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7170E-01 CRITERION= .2626 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 357
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7633E-05 OSCILLATION LIMIT = 6.022
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2639
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7228E-01 CRITERION= .2625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 358
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7255E-05 OSCILLATION LIMIT = 5.724
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2637
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7161E-01 CRITERION= .2623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 359
 *** TIME = .132542E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7585E-05 OSCILLATION LIMIT = 5.984
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2635
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7213E-01 CRITERION= .2621 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 360
 *** TIME = .133331E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7281E-05 OSCILLATION LIMIT = 5.745
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7153E-01 CRITERION= .2619 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 361
 *** TIME = .134120E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7547E-05 OSCILLATION LIMIT = 5.954
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2632
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7200E-01 CRITERION= .2618 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 362
 *** TIME = .134909E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7300E-05 OSCILLATION LIMIT = 5.759
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2631
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7144E-01 CRITERION= .2616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 363
 *** TIME = .135698E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7516E-05 OSCILLATION LIMIT = 5.930

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7187E-01 CRITERION= .2615 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 364
 *** TIME = .136487E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7313E-05 OSCILLATION LIMIT = 5.769
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7135E-01 CRITERION= .2613 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 365
 *** TIME = .137276E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7490E-05 OSCILLATION LIMIT = 5.909
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7176E-01 CRITERION= .2612 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 366
 *** TIME = .138065E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7320E-05 OSCILLATION LIMIT = 5.775
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7126E-01 CRITERION= .2610 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 367
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7468E-05 OSCILLATION LIMIT = 5.892
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7165E-01 CRITERION= .2609 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 368
 *** TIME = .139642E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7324E-05 OSCILLATION LIMIT = 5.778
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7119E-01 CRITERION= .2607 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 369
 *** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7449E-05 OSCILLATION LIMIT = 5.877
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2619
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7155E-01 CRITERION= .2605 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 370
 *** TIME = .141220E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7325E-05 OSCILLATION LIMIT = 5.779
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2618
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7110E-01 CRITERION= .2603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 371

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*** TIME = .142009E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7433E-05    OSCILLATION LIMIT = 5.864
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 26.01    CRITERION= .2616
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7145E-01    CRITERION= .2602    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 372
*** TIME = .142798E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7325E-05    OSCILLATION LIMIT = 5.779
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.97    CRITERION= .2615
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7101E-01    CRITERION= .2600    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 373
*** TIME = .143587E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7420E-05    OSCILLATION LIMIT = 5.854
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 26.01    CRITERION= .2613
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7134E-01    CRITERION= .2599    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 374
*** TIME = .144376E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7323E-05    OSCILLATION LIMIT = 5.777
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.97    CRITERION= .2612
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7092E-01    CRITERION= .2597    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 375
*** TIME = .145165E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7407E-05    OSCILLATION LIMIT = 5.844
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 26.01    CRITERION= .2610
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7129E-01    CRITERION= .2596    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 376
*** TIME = .145954E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7319E-05    OSCILLATION LIMIT = 5.775
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.97    CRITERION= .2609
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7089E-01    CRITERION= .2594    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 377
*** TIME = .146743E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7395E-05    OSCILLATION LIMIT = 5.834
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 26.01    CRITERION= .2607
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7120E-01    CRITERION= .2593    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 378
*** TIME = .147532E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7315E-05    OSCILLATION LIMIT = 5.771
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.97    CRITERION= .2605
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
    HT FLOW CONVERGENCE VALUE= .7079E-01    CRITERION= .2591    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 379
*** TIME = .148321E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7384E-05 OSCILLATION LIMIT = 5.825
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2604
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .7110E-01 CRITERION= .2589 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 380
*** TIME = .149110E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7310E-05 OSCILLATION LIMIT = 5.767
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2602
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .7070E-01 CRITERION= .2587 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 381
*** TIME = .149899E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7374E-05 OSCILLATION LIMIT = 5.818
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .7100E-01 CRITERION= .2586 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 382
*** TIME = .150688E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7304E-05 OSCILLATION LIMIT = 5.763
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2599
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .7060E-01 CRITERION= .2584 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 383
*** TIME = .151477E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7364E-05 OSCILLATION LIMIT = 5.810
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2597
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .7089E-01 CRITERION= .2583 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 384
*** TIME = .152265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7298E-05 OSCILLATION LIMIT = 5.758
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2596
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .7050E-01 CRITERION= .2581 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 385
*** TIME = .153054E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7355E-05 OSCILLATION LIMIT = 5.803
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2594
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
HT FLOW CONVERGENCE VALUE= .7079E-01 CRITERION= .2580 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 386
*** TIME = .153843E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7292E-05 OSCILLATION LIMIT = 5.753
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2593

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7040E-01 CRITERION= .2578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 387
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7347E-05 OSCILLATION LIMIT = 5.796
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7069E-01 CRITERION= .2576 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 388
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7286E-05 OSCILLATION LIMIT = 5.748
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7031E-01 CRITERION= .2575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 389
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7338E-05 OSCILLATION LIMIT = 5.789
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.01 CRITERION= .2588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7059E-01 CRITERION= .2573 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 390
 *** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7279E-05 OSCILLATION LIMIT = 5.743
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.97 CRITERION= .2586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9364E-01
 HT FLOW CONVERGENCE VALUE= .7021E-01 CRITERION= .2571 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 391
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7329E-05 OSCILLATION LIMIT = 5.782

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:54:26 JUN 11, 1995 CP= 24248.420
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5607E-01 CRITERION= .2570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 392
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1405E-04 OSCILLATION LIMIT = 11.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5538E-01 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 393
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1449E-04 OSCILLATION LIMIT = 11.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2577
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5623E-01 CRITERION= .2566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 394
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1305E-04 OSCILLATION LIMIT = 10.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5535E-01 CRITERION= .2564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 395
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1437E-04 OSCILLATION LIMIT = 11.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2573
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5608E-01 CRITERION= .2562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 396
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1318E-04 OSCILLATION LIMIT = 10.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5543E-01 CRITERION= .2560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 397
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1422E-04 OSCILLATION LIMIT = 11.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5613E-01 CRITERION= .2558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 398
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1329E-04 OSCILLATION LIMIT = 10.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5553E-01 CRITERION= .2556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 399
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1411E-04 OSCILLATION LIMIT = 11.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5608E-01 CRITERION= .2555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 400
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1336E-04 OSCILLATION LIMIT = 10.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5548E-01 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 401
 *** TIME = .165677E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1402E-04  OSCILLATION LIMIT = 11.06
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.93  CRITERION= .2562
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5598E-01 CRITERION= .2551  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 402
*** TIME = .166466E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1341E-04  OSCILLATION LIMIT = 10.58
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.89  CRITERION= .2560
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5543E-01 CRITERION= .2549  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 403
*** TIME = .167255E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1395E-04  OSCILLATION LIMIT = 11.00
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.93  CRITERION= .2558
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5597E-01 CRITERION= .2547  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 404
*** TIME = .168044E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1345E-04  OSCILLATION LIMIT = 10.61
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.89  CRITERION= .2556
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5546E-01 CRITERION= .2545  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 405
*** TIME = .168833E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1389E-04  OSCILLATION LIMIT = 10.96
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.93  CRITERION= .2554
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5591E-01 CRITERION= .2543  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 406
*** TIME = .169622E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1348E-04  OSCILLATION LIMIT = 10.64
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.89  CRITERION= .2553
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5545E-01 CRITERION= .2541  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 407
*** TIME = .170411E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1384E-04  OSCILLATION LIMIT = 10.92
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.93  CRITERION= .2550
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5583E-01 CRITERION= .2540  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 408
*** TIME = .171200E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1350E-04  OSCILLATION LIMIT = 10.65
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 21.89  CRITERION= .2549
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
  HT FLOW CONVERGENCE VALUE= .5540E-01 CRITERION= .2537  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 409
*** TIME = .171989E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1381E-04 OSCILLATION LIMIT = 10.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2547
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5575E-01 CRITERION= .2536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 410
*** TIME = .172778E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1351E-04 OSCILLATION LIMIT = 10.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2545
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5531E-01 CRITERION= .2534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 411
*** TIME = .173567E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1377E-04 OSCILLATION LIMIT = 10.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2543
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5566E-01 CRITERION= .2532 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 412
*** TIME = .174356E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2541
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5526E-01 CRITERION= .2530 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 413
*** TIME = .175145E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1375E-04 OSCILLATION LIMIT = 10.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5562E-01 CRITERION= .2528 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 414
*** TIME = .175934E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2538
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5522E-01 CRITERION= .2526 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 415
*** TIME = .176723E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1372E-04 OSCILLATION LIMIT = 10.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
HT FLOW CONVERGENCE VALUE= .5553E-01 CRITERION= .2524 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 416
*** TIME = .177512E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2534
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01

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HT FLOW CONVERGENCE VALUE= .5514E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 417
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1370E-04 OSCILLATION LIMIT = 10.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5547E-01 CRITERION= .2521 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 418
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5518E-01 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 419
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1368E-04 OSCILLATION LIMIT = 10.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5551E-01 CRITERION= .2517 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 420
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5522E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 421
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1367E-04 OSCILLATION LIMIT = 10.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5551E-01 CRITERION= .2513 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 422
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1351E-04 OSCILLATION LIMIT = 10.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2523
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5519E-01 CRITERION= .2511 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 423
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1365E-04 OSCILLATION LIMIT = 10.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2520
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5560E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 424
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1350E-04 OSCILLATION LIMIT = 10.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2519
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5542E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 425
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1364E-04 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2517
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5569E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 426
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1349E-04 OSCILLATION LIMIT = 10.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5533E-01 CRITERION= .2503 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 427
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1362E-04 OSCILLATION LIMIT = 10.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2513
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5564E-01 CRITERION= .2502 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 428
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1349E-04 OSCILLATION LIMIT = 10.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5532E-01 CRITERION= .2500 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 429
 *** TIME = .187768E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1361E-04 OSCILLATION LIMIT = 10.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.93 CRITERION= .2509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5566E-01 CRITERION= .2498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 430
 *** TIME = .188557E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1348E-04 OSCILLATION LIMIT = 10.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.89 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7904E-01
 HT FLOW CONVERGENCE VALUE= .5533E-01 CRITERION= .2496 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 431
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1359E-04 OSCILLATION LIMIT = 10.73

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:37:22 JUN 11, 1995 CP= 26791.210
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4841E-01 CRITERION= .2495 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 432
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1149E-04 OSCILLATION LIMIT = 9.064
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4832E-01 CRITERION= .2493 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 433
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1129E-04 OSCILLATION LIMIT = 8.909
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4866E-01 CRITERION= .2492 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 434
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 8.793
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2499
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4838E-01 CRITERION= .2490 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 435
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1130E-04 OSCILLATION LIMIT = 8.918
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2497
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4871E-01 CRITERION= .2489 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 436
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1114E-04 OSCILLATION LIMIT = 8.790
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2496
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4834E-01 CRITERION= .2487 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 437
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1129E-04 OSCILLATION LIMIT = 8.907
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2494
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4866E-01 CRITERION= .2486 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 438
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1114E-04 OSCILLATION LIMIT = 8.787
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4830E-01 CRITERION= .2484 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 439

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*** TIME = .195657E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1128E-04    OSCILLATION LIMIT = 8.898
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.79    CRITERION= .2491
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4869E-01    CRITERION= .2483    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 440
*** TIME = .196446E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1113E-04    OSCILLATION LIMIT = 8.784
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.74    CRITERION= .2490
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4837E-01    CRITERION= .2481    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 441
*** TIME = .197235E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1127E-04    OSCILLATION LIMIT = 8.888
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.79    CRITERION= .2488
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4867E-01    CRITERION= .2480    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 442
*** TIME = .198024E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1113E-04    OSCILLATION LIMIT = 8.779
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.74    CRITERION= .2487
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4832E-01    CRITERION= .2478    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 443
*** TIME = .198813E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1125E-04    OSCILLATION LIMIT = 8.879
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.79    CRITERION= .2485
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4864E-01    CRITERION= .2477    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 444
*** TIME = .199602E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1112E-04    OSCILLATION LIMIT = 8.775
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.74    CRITERION= .2484
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4833E-01    CRITERION= .2475    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 445
*** TIME = .200391E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1124E-04    OSCILLATION LIMIT = 8.871
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.79    CRITERION= .2482
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4863E-01    CRITERION= .2474    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 446
*** TIME = .201180E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1112E-04    OSCILLATION LIMIT = 8.770
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 18.74    CRITERION= .2481
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
    HT FLOW CONVERGENCE VALUE= .4829E-01    CRITERION= .2472    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 447
*** TIME = .201969E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 8.863
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2479
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4858E-01 CRITERION= .2471 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 448
*** TIME = .202758E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1111E-04 OSCILLATION LIMIT = 8.765
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2478
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4824E-01 CRITERION= .2469 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 449
*** TIME = .203547E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 8.856
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2476
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4855E-01 CRITERION= .2468 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 450
*** TIME = .204335E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = 8.759
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2475
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4822E-01 CRITERION= .2466 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 451
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 8.848
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2474
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4850E-01 CRITERION= .2465 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 452
*** TIME = .205913E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 8.753
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2472
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4817E-01 CRITERION= .2464 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 453
*** TIME = .206702E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 8.840
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2471
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4846E-01 CRITERION= .2462 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 454
*** TIME = .207491E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 8.747
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2469

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4816E-01 CRITERION= .2461 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 455
*** TIME = .208280E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 8.832
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2468
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4844E-01 CRITERION= .2459 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 456
*** TIME = .209069E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 8.741
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2467
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4812E-01 CRITERION= .2458 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 457
*** TIME = .209858E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = 8.825
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2465
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4841E-01 CRITERION= .2457 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 458
*** TIME = .210647E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1107E-04 OSCILLATION LIMIT = 8.735
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2464
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4809E-01 CRITERION= .2455 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 459
*** TIME = .211436E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 8.817
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2462
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4835E-01 CRITERION= .2454 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 460
*** TIME = .212225E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 8.728
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2461
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4803E-01 CRITERION= .2452 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 461
*** TIME = .213014E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1117E-04 OSCILLATION LIMIT = 8.810
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2459
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
HT FLOW CONVERGENCE VALUE= .4830E-01 CRITERION= .2451 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 462
*** TIME = .213803E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 8.722
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2458
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4798E-01 CRITERION= .2449 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 463
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1116E-04 OSCILLATION LIMIT = 8.803
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2456
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4823E-01 CRITERION= .2448 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 464
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 8.716
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2455
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4791E-01 CRITERION= .2446 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 465
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 8.796
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2453
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4817E-01 CRITERION= .2445 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 466
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 8.710
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2452
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4786E-01 CRITERION= .2443 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 467
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1114E-04 OSCILLATION LIMIT = 8.789
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.79 CRITERION= .2450
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4811E-01 CRITERION= .2442 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 468
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 8.704
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2449
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4780E-01 CRITERION= .2440 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 469
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1113E-04 OSCILLATION LIMIT = 8.782
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.78 CRITERION= .2447
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4805E-01 CRITERION= .2439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 470
 *** TIME = .220114E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1102E-04 OSCILLATION LIMIT = 8.698
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.74 CRITERION= .2446
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6770E-01
 HT FLOW CONVERGENCE VALUE= .4775E-01 CRITERION= .2437 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 471
 *** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1112E-04 OSCILLATION LIMIT = 8.775

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:20:21 JUN 11, 1995 CP= 29334.750
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4333E-01 CRITERION= .2436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 472
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1209E-04 OSCILLATION LIMIT = 9.536
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2442
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4300E-01 CRITERION= .2434 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 473
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1218E-04 OSCILLATION LIMIT = 9.612
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2440
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4338E-01 CRITERION= .2433 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 474
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1177E-04 OSCILLATION LIMIT = 9.285
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2439
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4298E-01 CRITERION= .2432 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 475
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1216E-04 OSCILLATION LIMIT = 9.591
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2438
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4332E-01 CRITERION= .2431 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 476
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1179E-04 OSCILLATION LIMIT = 9.304
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2436
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4294E-01 CRITERION= .2429 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 477
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1212E-04 OSCILLATION LIMIT = 9.561
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2435
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4326E-01 CRITERION= .2428 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 478
*** TIME = .226426E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1181E-04 OSCILLATION LIMIT = 9.318
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2434
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4291E-01 CRITERION= .2426 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 479
*** TIME = .227215E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1209E-04 OSCILLATION LIMIT = 9.537
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2432
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4322E-01 CRITERION= .2425 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 480
*** TIME = .228004E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1182E-04 OSCILLATION LIMIT = 9.327
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2431
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4288E-01 CRITERION= .2423 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 481
*** TIME = .228793E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1206E-04 OSCILLATION LIMIT = 9.517
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4317E-01 CRITERION= .2422 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 482
*** TIME = .229582E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1183E-04 OSCILLATION LIMIT = 9.332
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2428
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4283E-01 CRITERION= .2420 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 483
*** TIME = .230371E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1204E-04 OSCILLATION LIMIT = 9.499
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2426
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
HT FLOW CONVERGENCE VALUE= .4310E-01 CRITERION= .2419 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 484
*** TIME = .231159E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1183E-04 OSCILLATION LIMIT = 9.334
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2425
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01

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HT FLOW CONVERGENCE VALUE= .4277E-01 CRITERION= .2418 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 485
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1202E-04 OSCILLATION LIMIT = 9.484
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4304E-01 CRITERION= .2417 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 486
 *** TIME = .232737E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1183E-04 OSCILLATION LIMIT = 9.335
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4272E-01 CRITERION= .2415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 487
 *** TIME = .233526E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1201E-04 OSCILLATION LIMIT = 9.471
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4298E-01 CRITERION= .2414 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 488
 *** TIME = .234315E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1183E-04 OSCILLATION LIMIT = 9.335
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4267E-01 CRITERION= .2412 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 489
 *** TIME = .235104E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1199E-04 OSCILLATION LIMIT = 9.460
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2418
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4292E-01 CRITERION= .2411 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 490
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1183E-04 OSCILLATION LIMIT = 9.333
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2417
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4262E-01 CRITERION= .2409 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 491
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1198E-04 OSCILLATION LIMIT = 9.450
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4287E-01 CRITERION= .2408 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 492
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1183E-04 OSCILLATION LIMIT = 9.330
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4256E-01 CRITERION= .2407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 493
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1197E-04 OSCILLATION LIMIT = 9.441
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2413
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4280E-01 CRITERION= .2406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 494
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1182E-04 OSCILLATION LIMIT = 9.326
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2412
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4250E-01 CRITERION= .2404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 495
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1195E-04 OSCILLATION LIMIT = 9.432
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2410
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4274E-01 CRITERION= .2403 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 496
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1182E-04 OSCILLATION LIMIT = 9.322
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2409
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4245E-01 CRITERION= .2401 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 497
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1194E-04 OSCILLATION LIMIT = 9.423
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2407
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4269E-01 CRITERION= .2400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 498
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1181E-04 OSCILLATION LIMIT = 9.317
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4239E-01 CRITERION= .2398 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 499
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1193E-04 OSCILLATION LIMIT = 9.415
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2404
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4263E-01 CRITERION= .2397 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 500
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1180E-04 OSCILLATION LIMIT = 9.313

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4234E-01 CRITERION= .2396 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 501

*** TIME = .244571E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1192E-04 OSCILLATION LIMIT = 9.408

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.09 CRITERION= .2402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4257E-01 CRITERION= .2394 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 502

*** TIME = .245360E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1180E-04 OSCILLATION LIMIT = 9.308

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4228E-01 CRITERION= .2393 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 503

*** TIME = .246149E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1192E-04 OSCILLATION LIMIT = 9.401

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.08 CRITERION= .2399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4251E-01 CRITERION= .2392 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 504

*** TIME = .246938E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1179E-04 OSCILLATION LIMIT = 9.303

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2398
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4223E-01 CRITERION= .2390 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 505

*** TIME = .247727E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1191E-04 OSCILLATION LIMIT = 9.394

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.08 CRITERION= .2396
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4245E-01 CRITERION= .2389 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 506

*** TIME = .248516E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1178E-04 OSCILLATION LIMIT = 9.298

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.04 CRITERION= .2395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4217E-01 CRITERION= .2387 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 507

*** TIME = .249305E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1190E-04 OSCILLATION LIMIT = 9.388

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.08 CRITERION= .2393
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
 HT FLOW CONVERGENCE VALUE= .4239E-01 CRITERION= .2386 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 508

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*** TIME = .250094E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1178E-04    OSCILLATION LIMIT = 9.292
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.04    CRITERION= .2392
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
    HT FLOW CONVERGENCE VALUE= .4212E-01    CRITERION= .2384    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 509
*** TIME = .250883E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1189E-04    OSCILLATION LIMIT = 9.381
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.08    CRITERION= .2390
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
    HT FLOW CONVERGENCE VALUE= .4234E-01    CRITERION= .2383    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 510
*** TIME = .251672E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1177E-04    OSCILLATION LIMIT = 9.287
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.04    CRITERION= .2389
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6154E-01
    HT FLOW CONVERGENCE VALUE= .4206E-01    CRITERION= .2382    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 511
*** TIME = .252461E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1188E-04    OSCILLATION LIMIT = 9.375

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX    20:03:19 JUN 11, 1995 CP= 31878.790
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 10.46    CRITERION= .2384
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2381E-01    CRITERION= .2381    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 512
*** TIME = .253250E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2811E-04    OSCILLATION LIMIT = 22.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.41    CRITERION= .2383
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2339E-01    CRITERION= .2379    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 513
*** TIME = .254039E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2903E-04    OSCILLATION LIMIT = 22.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.46    CRITERION= .2381
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2400E-01    CRITERION= .2378    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 514
*** TIME = .254828E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2513E-04    OSCILLATION LIMIT = 19.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.41    CRITERION= .2380
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
    HT FLOW CONVERGENCE VALUE= .2340E-01    CRITERION= .2376    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 515
*** TIME = .255617E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2877E-04 OSCILLATION LIMIT = 22.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.46 CRITERION= .2379
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2393E-01 CRITERION= .2376 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 516
*** TIME = .256406E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2549E-04 OSCILLATION LIMIT = 20.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2378
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2340E-01 CRITERION= .2374 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 517
*** TIME = .257194E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2842E-04 OSCILLATION LIMIT = 22.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.46 CRITERION= .2376
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2387E-01 CRITERION= .2373 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 518
*** TIME = .257983E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2577E-04 OSCILLATION LIMIT = 20.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2375
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2339E-01 CRITERION= .2371 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 519
*** TIME = .258772E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2815E-04 OSCILLATION LIMIT = 22.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.46 CRITERION= .2374
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2382E-01 CRITERION= .2370 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 520
*** TIME = .259561E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2599E-04 OSCILLATION LIMIT = 20.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2373
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2338E-01 CRITERION= .2369 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 521
*** TIME = .260350E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2794E-04 OSCILLATION LIMIT = 22.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.46 CRITERION= .2371
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2378E-01 CRITERION= .2368 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 522
*** TIME = .261139E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2615E-04 OSCILLATION LIMIT = 20.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2370

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2337E-01 CRITERION= .2366 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 523
*** TIME = .261928E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2777E-04 OSCILLATION LIMIT = 21.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.46 CRITERION= .2368
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2373E-01 CRITERION= .2365 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 524
*** TIME = .262717E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2628E-04 OSCILLATION LIMIT = 20.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2367
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2335E-01 CRITERION= .2363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 525
*** TIME = .263506E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2765E-04 OSCILLATION LIMIT = 21.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.46 CRITERION= .2366
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2370E-01 CRITERION= .2363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 526
*** TIME = .264295E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2637E-04 OSCILLATION LIMIT = 20.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2365
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2333E-01 CRITERION= .2361 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 527
*** TIME = .265084E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2754E-04 OSCILLATION LIMIT = 21.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.46 CRITERION= .2363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2366E-01 CRITERION= .2360 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 528
*** TIME = .265873E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2645E-04 OSCILLATION LIMIT = 20.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2362
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2331E-01 CRITERION= .2358 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 529
*** TIME = .266662E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2746E-04 OSCILLATION LIMIT = 21.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.45 CRITERION= .2361
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2362E-01 CRITERION= .2357 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 530
*** TIME = .267451E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2650E-04 OSCILLATION LIMIT = 20.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2360
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2329E-01 CRITERION= .2356 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 531
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2740E-04 OSCILLATION LIMIT = 21.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.45 CRITERION= .2358
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .2355 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 532
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2654E-04 OSCILLATION LIMIT = 20.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2357
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2327E-01 CRITERION= .2353 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 533
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2735E-04 OSCILLATION LIMIT = 21.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.45 CRITERION= .2355
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2356E-01 CRITERION= .2352 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 534
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2657E-04 OSCILLATION LIMIT = 20.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2324E-01 CRITERION= .2350 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 535
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2731E-04 OSCILLATION LIMIT = 21.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.45 CRITERION= .2353
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2352E-01 CRITERION= .2350 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 536
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2659E-04 OSCILLATION LIMIT = 20.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2352
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2322E-01 CRITERION= .2348 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 537
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2727E-04 OSCILLATION LIMIT = 21.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.45 CRITERION= .2350
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
 HT FLOW CONVERGENCE VALUE= .2349E-01 CRITERION= .2347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 538
 *** TIME = .273762E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .2660E-04  OSCILLATION LIMIT = 20.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.41  CRITERION= .2349
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2319E-01 CRITERION= .2345  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 539
*** TIME = .274551E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2724E-04  OSCILLATION LIMIT = 21.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.45  CRITERION= .2348
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2346E-01 CRITERION= .2344  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 540
*** TIME = .275340E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2661E-04  OSCILLATION LIMIT = 21.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.41  CRITERION= .2347
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2317E-01 CRITERION= .2343  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 541
*** TIME = .276129E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2722E-04  OSCILLATION LIMIT = 21.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.45  CRITERION= .2345
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2343E-01 CRITERION= .2342  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 542
*** TIME = .276918E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2662E-04  OSCILLATION LIMIT = 21.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.41  CRITERION= .2344
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2314E-01 CRITERION= .2340  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 543
*** TIME = .277707E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2720E-04  OSCILLATION LIMIT = 21.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.45  CRITERION= .2342
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2340E-01 CRITERION= .2339  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 544
*** TIME = .278496E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2662E-04  OSCILLATION LIMIT = 21.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.41  CRITERION= .2341
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2312E-01 CRITERION= .2338  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 545
*** TIME = .279285E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2718E-04  OSCILLATION LIMIT = 21.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.45  CRITERION= .2340
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
  HT FLOW CONVERGENCE VALUE= .2337E-01 CRITERION= .2337  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 546
*** TIME = .280074E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2663E-04 OSCILLATION LIMIT = 21.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2339
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2309E-01 CRITERION= .2335 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 547
*** TIME = .280863E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2716E-04 OSCILLATION LIMIT = 21.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.45 CRITERION= .2337
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2334E-01 CRITERION= .2334 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 548
*** TIME = .281652E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2663E-04 OSCILLATION LIMIT = 21.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2336
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2307E-01 CRITERION= .2332 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 549
*** TIME = .282441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2715E-04 OSCILLATION LIMIT = 21.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.45 CRITERION= .2335
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2332E-01 CRITERION= .2331 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 550
*** TIME = .283229E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2662E-04 OSCILLATION LIMIT = 21.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.41 CRITERION= .2334
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3804E-01
HT FLOW CONVERGENCE VALUE= .2304E-01 CRITERION= .2330 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 551
*** TIME = .284018E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2714E-04 OSCILLATION LIMIT = 21.41
    Apply loads and solve for 10 to 90 years

```

*DO LOOP ON PARAMETER= TM FROM .31558E+09 TO .28402E+10 BY .31558E+09

TIME= .31558E+09

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
4464.28518 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 152.19 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 153.05 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 155.02 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 34422.900 TIME= 20:46:20
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:46:20 JUN 11, 1995 CP= 34422.900
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 22
TIME AT END OF THE LOAD STEP.31558E+09
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 9.736 CRITERION= .2332
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2232E-01 CRITERION= .2329 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 552
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2004E-04 OSCILLATION LIMIT = 15.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.692 CRITERION= .2331

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2215E-01 CRITERION= .2328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 553
 *** TIME = .285596E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1986E-04 OSCILLATION LIMIT = 15.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.736 CRITERION= .2330
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2233E-01 CRITERION= .2327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 554
 *** TIME = .286385E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2011E-04 OSCILLATION LIMIT = 15.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.692 CRITERION= .2329
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2212E-01 CRITERION= .2326 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 555
 *** TIME = .287174E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1994E-04 OSCILLATION LIMIT = 15.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.736 CRITERION= .2328
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2232E-01 CRITERION= .2325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 556
 *** TIME = .287963E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2004E-04 OSCILLATION LIMIT = 15.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.692 CRITERION= .2327
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2210E-01 CRITERION= .2324 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 557
 *** TIME = .288752E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1999E-04 OSCILLATION LIMIT = 15.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.736 CRITERION= .2326
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2230E-01 CRITERION= .2323 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 558
 *** TIME = .289541E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1998E-04 OSCILLATION LIMIT = 15.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.692 CRITERION= .2325
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2207E-01 CRITERION= .2321 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 559
 *** TIME = .290330E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2003E-04 OSCILLATION LIMIT = 15.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.736 CRITERION= .2323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2228E-01 CRITERION= .2321 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 560
 *** TIME = .291119E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1993E-04 OSCILLATION LIMIT = 15.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.692      CRITERION= .2323
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2205E-01 CRITERION= .2319 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 561
*** TIME = .291908E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2006E-04 OSCILLATION LIMIT = 15.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.736      CRITERION= .2321
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2226E-01 CRITERION= .2319 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 562
*** TIME = .292697E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1990E-04 OSCILLATION LIMIT = 15.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691      CRITERION= .2321
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2202E-01 CRITERION= .2317 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 563
*** TIME = .293486E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2008E-04 OSCILLATION LIMIT = 15.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.736      CRITERION= .2319
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2224E-01 CRITERION= .2317 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 564
*** TIME = .294275E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1987E-04 OSCILLATION LIMIT = 15.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691      CRITERION= .2319
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2200E-01 CRITERION= .2315 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 565
*** TIME = .295064E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2009E-04 OSCILLATION LIMIT = 15.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.736      CRITERION= .2317
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2222E-01 CRITERION= .2315 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 566
*** TIME = .295853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1985E-04 OSCILLATION LIMIT = 15.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691      CRITERION= .2317
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2198E-01 CRITERION= .2313 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 567
*** TIME = .296641E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2010E-04 OSCILLATION LIMIT = 15.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.735      CRITERION= .2315
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
HT FLOW CONVERGENCE VALUE= .2220E-01 CRITERION= .2312 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 568
*** TIME = .297430E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .1983E-04 OSCILLATION LIMIT = 15.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
 HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2196E-01 CRITERION= .2311 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 569
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2010E-04 OSCILLATION LIMIT = 15.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.735 CRITERION= .2313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .2310 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 570
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1981E-04 OSCILLATION LIMIT = 15.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2312
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2194E-01 CRITERION= .2309 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 571
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2010E-04 OSCILLATION LIMIT = 15.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.735 CRITERION= .2311
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2216E-01 CRITERION= .2308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 572
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1980E-04 OSCILLATION LIMIT = 15.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2310
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2191E-01 CRITERION= .2307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 573
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2010E-04 OSCILLATION LIMIT = 15.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.735 CRITERION= .2309
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2214E-01 CRITERION= .2306 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 574
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1978E-04 OSCILLATION LIMIT = 15.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2308
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2189E-01 CRITERION= .2305 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 575
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2010E-04 OSCILLATION LIMIT = 15.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.735 CRITERION= .2307
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2211E-01 CRITERION= .2304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 576
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1977E-04 OSCILLATION LIMIT = 15.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2306
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2187E-01 CRITERION= .2303 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 577
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2010E-04 OSCILLATION LIMIT = 15.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.735 CRITERION= .2305
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2209E-01 CRITERION= .2302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 578
 *** TIME = .305320E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1976E-04 OSCILLATION LIMIT = 15.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2185E-01 CRITERION= .2301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 579
 *** TIME = .306109E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2009E-04 OSCILLATION LIMIT = 15.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.735 CRITERION= .2303
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2207E-01 CRITERION= .2300 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 580
 *** TIME = .306898E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1976E-04 OSCILLATION LIMIT = 15.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2302
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2183E-01 CRITERION= .2299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 581
 *** TIME = .307687E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2009E-04 OSCILLATION LIMIT = 15.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.734 CRITERION= .2301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2205E-01 CRITERION= .2298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 582
 *** TIME = .308476E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1975E-04 OSCILLATION LIMIT = 15.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2181E-01 CRITERION= .2297 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 583
 *** TIME = .309265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2008E-04 OSCILLATION LIMIT = 15.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.734 CRITERION= .2299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01

HT FLOW CONVERGENCE VALUE= .2202E-01 CRITERION= .2296 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 584
 *** TIME = .310053E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1974E-04 OSCILLATION LIMIT = 15.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2179E-01 CRITERION= .2295 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 585
 *** TIME = .310842E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2008E-04 OSCILLATION LIMIT = 15.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.734 CRITERION= .2297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2200E-01 CRITERION= .2294 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 586
 *** TIME = .311631E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1973E-04 OSCILLATION LIMIT = 15.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2177E-01 CRITERION= .2293 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 587
 *** TIME = .312420E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2007E-04 OSCILLATION LIMIT = 15.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.734 CRITERION= .2295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2198E-01 CRITERION= .2292 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 588
 *** TIME = .313209E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1973E-04 OSCILLATION LIMIT = 15.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2175E-01 CRITERION= .2290 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 589
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2006E-04 OSCILLATION LIMIT = 15.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.734 CRITERION= .2292
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2196E-01 CRITERION= .2290 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 590
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1972E-04 OSCILLATION LIMIT = 15.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.691 CRITERION= .2292
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3546E-01
 HT FLOW CONVERGENCE VALUE= .2172E-01 CRITERION= .2288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 591
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2006E-04 OSCILLATION LIMIT = 15.82

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:29:18 JUN 11, 1995 CP= 36966.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 50.18 CRITERION= .2342
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2008
 HT FLOW CONVERGENCE VALUE= .1039 CRITERION= .2279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 592
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5293E-04 OSCILLATION LIMIT = 417.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.13 CRITERION= .2333
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1978
 HT FLOW CONVERGENCE VALUE= .1030 CRITERION= .2268 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 593
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5363E-04 OSCILLATION LIMIT = 423.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.18 CRITERION= .2323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1951
 HT FLOW CONVERGENCE VALUE= .1027 CRITERION= .2259 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 594
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5306E-04 OSCILLATION LIMIT = 418.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.13 CRITERION= .2313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1976
 HT FLOW CONVERGENCE VALUE= .1020 CRITERION= .2248 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 595
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5355E-04 OSCILLATION LIMIT = 422.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.18 CRITERION= .2303
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1952
 HT FLOW CONVERGENCE VALUE= .1017 CRITERION= .2239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 596
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5305E-04 OSCILLATION LIMIT = 418.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.13 CRITERION= .2294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1976
 HT FLOW CONVERGENCE VALUE= .1010 CRITERION= .2228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 597
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5353E-04 OSCILLATION LIMIT = 422.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.17 CRITERION= .2284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1953
 HT FLOW CONVERGENCE VALUE= .1007 CRITERION= .2219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 598

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*** TIME = .370802E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5303E-04    OSCILLATION LIMIT = 418.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.13    CRITERION= .2274
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1976
    HT FLOW CONVERGENCE VALUE= .1001    CRITERION= .2208    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 599
*** TIME = .378691E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5351E-04    OSCILLATION LIMIT = 422.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.17    CRITERION= .2264
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1954
    HT FLOW CONVERGENCE VALUE= .9978E-01 CRITERION= .2198    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 600
*** TIME = .386581E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5302E-04    OSCILLATION LIMIT = 418.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.12    CRITERION= .2254
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
    HT FLOW CONVERGENCE VALUE= .9912E-01 CRITERION= .2188    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 601
*** TIME = .394470E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5348E-04    OSCILLATION LIMIT = 422.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.17    CRITERION= .2244
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1955
    HT FLOW CONVERGENCE VALUE= .9882E-01 CRITERION= .2178    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 602
*** TIME = .402359E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5301E-04    OSCILLATION LIMIT = 418.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.12    CRITERION= .2235
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
    HT FLOW CONVERGENCE VALUE= .9817E-01 CRITERION= .2168    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 603
*** TIME = .410249E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5346E-04    OSCILLATION LIMIT = 421.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.17    CRITERION= .2225
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1955
    HT FLOW CONVERGENCE VALUE= .9787E-01 CRITERION= .2158    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 604
*** TIME = .418138E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5299E-04    OSCILLATION LIMIT = 418.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.12    CRITERION= .2215
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
    HT FLOW CONVERGENCE VALUE= .9722E-01 CRITERION= .2148    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 605
*** TIME = .426028E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5344E-04    OSCILLATION LIMIT = 421.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

    HT FLOW CONVERGENCE VALUE= 50.16    CRITERION= .2205
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1956
    HT FLOW CONVERGENCE VALUE= .9692E-01 CRITERION= .2138    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 606
*** TIME = .433917E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5298E-04 OSCILLATION LIMIT = 418.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.12 CRITERION= .2195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
HT FLOW CONVERGENCE VALUE= .9627E-01 CRITERION= .2128 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 607
*** TIME = .441806E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5342E-04 OSCILLATION LIMIT = 421.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.16 CRITERION= .2185
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1957
HT FLOW CONVERGENCE VALUE= .9596E-01 CRITERION= .2118 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 608
*** TIME = .449696E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5297E-04 OSCILLATION LIMIT = 417.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.11 CRITERION= .2176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1977
HT FLOW CONVERGENCE VALUE= .9532E-01 CRITERION= .2107 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 609
*** TIME = .457585E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5340E-04 OSCILLATION LIMIT = 421.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.16 CRITERION= .2166
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1958
HT FLOW CONVERGENCE VALUE= .9501E-01 CRITERION= .2098 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 610
*** TIME = .465475E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5295E-04 OSCILLATION LIMIT = 417.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.11 CRITERION= .2156
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1978
HT FLOW CONVERGENCE VALUE= .9436E-01 CRITERION= .2087 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 611
*** TIME = .473364E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5338E-04 OSCILLATION LIMIT = 421.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.16 CRITERION= .2146
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1959
HT FLOW CONVERGENCE VALUE= .9406E-01 CRITERION= .2078 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 612
*** TIME = .481253E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5294E-04 OSCILLATION LIMIT = 417.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.11 CRITERION= .2137
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1978
HT FLOW CONVERGENCE VALUE= .9342E-01 CRITERION= .2067 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 613
*** TIME = .489143E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5336E-04 OSCILLATION LIMIT = 421.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.15 CRITERION= .2127

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1959
HT FLOW CONVERGENCE VALUE= .9312E-01 CRITERION= .2057 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 614
*** TIME = .497032E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5292E-04 OSCILLATION LIMIT = 417.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.11 CRITERION= .2117
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1978
HT FLOW CONVERGENCE VALUE= .9247E-01 CRITERION= .2047 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 615
*** TIME = .504922E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5334E-04 OSCILLATION LIMIT = 420.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.15 CRITERION= .2107
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1960
HT FLOW CONVERGENCE VALUE= .9217E-01 CRITERION= .2037 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 616
*** TIME = .512811E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5291E-04 OSCILLATION LIMIT = 417.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.10 CRITERION= .2098
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1979
HT FLOW CONVERGENCE VALUE= .9152E-01 CRITERION= .2027 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 617
*** TIME = .520700E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5332E-04 OSCILLATION LIMIT = 420.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.15 CRITERION= .2088
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1961
HT FLOW CONVERGENCE VALUE= .9122E-01 CRITERION= .2017 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 618
*** TIME = .528590E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5290E-04 OSCILLATION LIMIT = 417.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.10 CRITERION= .2078
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1979
HT FLOW CONVERGENCE VALUE= .9057E-01 CRITERION= .2007 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 619
*** TIME = .536479E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5330E-04 OSCILLATION LIMIT = 420.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.15 CRITERION= .2068
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1962
HT FLOW CONVERGENCE VALUE= .9026E-01 CRITERION= .1997 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 620
*** TIME = .544369E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 417.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.10 CRITERION= .2059
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1979
HT FLOW CONVERGENCE VALUE= .8962E-01 CRITERION= .1987 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 621
*** TIME = .552258E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5328E-04 OSCILLATION LIMIT = 420.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 50.14 CRITERION= .2048
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1963
 HT FLOW CONVERGENCE VALUE= .8931E-01 CRITERION= .1977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 622
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5287E-04 OSCILLATION LIMIT = 417.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.10 CRITERION= .2039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1979
 HT FLOW CONVERGENCE VALUE= .8867E-01 CRITERION= .1967 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 623
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5326E-04 OSCILLATION LIMIT = 420.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.14 CRITERION= .2029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1963
 HT FLOW CONVERGENCE VALUE= .8837E-01 CRITERION= .1957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 624
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5285E-04 OSCILLATION LIMIT = 417.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.09 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1980
 HT FLOW CONVERGENCE VALUE= .8773E-01 CRITERION= .1946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 625
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5324E-04 OSCILLATION LIMIT = 420.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.14 CRITERION= .2009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1964
 HT FLOW CONVERGENCE VALUE= .8742E-01 CRITERION= .1937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 626
 *** TIME = .591705E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5284E-04 OSCILLATION LIMIT = 416.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.09 CRITERION= .2000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1980
 HT FLOW CONVERGENCE VALUE= .8679E-01 CRITERION= .1926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 627
 *** TIME = .599594E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5322E-04 OSCILLATION LIMIT = 419.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.14 CRITERION= .1990
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1965
 HT FLOW CONVERGENCE VALUE= .8648E-01 CRITERION= .1917 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 628
 *** TIME = .607484E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5282E-04 OSCILLATION LIMIT = 416.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.09 CRITERION= .1981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1980
 HT FLOW CONVERGENCE VALUE= .8584E-01 CRITERION= .1906 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 629
 *** TIME = .615373E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .5320E-04  OSCILLATION LIMIT = 419.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.13  CRITERION= .1971
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1966
HT FLOW CONVERGENCE VALUE= .8554E-01  CRITERION= .1896  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 630
*** TIME = .623263E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5281E-04  OSCILLATION LIMIT = 416.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 50.09  CRITERION= .1961
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1981
HT FLOW CONVERGENCE VALUE= .8490E-01  CRITERION= .1886  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 631
*** TIME = .631152E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5318E-04  OSCILLATION LIMIT = 419.6

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:12:20 JUN 11, 1995 CP= 39512.530
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 25.02  CRITERION= .1902
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1903
HT FLOW CONVERGENCE VALUE= .5003E-01  CRITERION= .1879  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 632
*** TIME = .639041E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6365E-04  OSCILLATION LIMIT = 502.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.97  CRITERION= .1895
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1880
HT FLOW CONVERGENCE VALUE= .4909E-01  CRITERION= .1871  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 633
*** TIME = .646931E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6389E-04  OSCILLATION LIMIT = 504.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.02  CRITERION= .1887
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1866
HT FLOW CONVERGENCE VALUE= .4880E-01  CRITERION= .1864  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 634
*** TIME = .654820E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6367E-04  OSCILLATION LIMIT = 502.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 24.97  CRITERION= .1880
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1884
HT FLOW CONVERGENCE VALUE= .4872E-01  CRITERION= .1856  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 635
*** TIME = .662710E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6391E-04  OSCILLATION LIMIT = 504.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

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HT FLOW CONVERGENCE VALUE= 25.02  CRITERION= .1872
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1867
HT FLOW CONVERGENCE VALUE= .4841E-01  CRITERION= .1849  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 636
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.97 CRITERION= .1865
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1885
 HT FLOW CONVERGENCE VALUE= .4832E-01 CRITERION= .1841 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 637
 *** TIME = .678488E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.02 CRITERION= .1857
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1869
 HT FLOW CONVERGENCE VALUE= .4802E-01 CRITERION= .1834 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 638
 *** TIME = .686378E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.97 CRITERION= .1850
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1886
 HT FLOW CONVERGENCE VALUE= .4793E-01 CRITERION= .1826 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 639
 *** TIME = .694267E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.02 CRITERION= .1843
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1870
 HT FLOW CONVERGENCE VALUE= .4763E-01 CRITERION= .1819 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 640
 *** TIME = .702157E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.97 CRITERION= .1835
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1887
 HT FLOW CONVERGENCE VALUE= .4753E-01 CRITERION= .1811 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 641
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1828
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1871
 HT FLOW CONVERGENCE VALUE= .4724E-01 CRITERION= .1804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 642
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.97 CRITERION= .1820
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1888
 HT FLOW CONVERGENCE VALUE= .4713E-01 CRITERION= .1796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 643
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1873

HT FLOW CONVERGENCE VALUE= .4685E-01 CRITERION= .1789 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 644
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.97 CRITERION= .1806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1889
 HT FLOW CONVERGENCE VALUE= .4674E-01 CRITERION= .1781 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 645
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1798
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1874
 HT FLOW CONVERGENCE VALUE= .4646E-01 CRITERION= .1774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 646
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.97 CRITERION= .1791
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1890
 HT FLOW CONVERGENCE VALUE= .4634E-01 CRITERION= .1766 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 647
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1783
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1875
 HT FLOW CONVERGENCE VALUE= .4607E-01 CRITERION= .1758 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 648
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.97 CRITERION= .1776
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1890
 HT FLOW CONVERGENCE VALUE= .4594E-01 CRITERION= .1751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 649
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1768
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1877
 HT FLOW CONVERGENCE VALUE= .4567E-01 CRITERION= .1743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 650
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1761
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1891
 HT FLOW CONVERGENCE VALUE= .4554E-01 CRITERION= .1735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 651
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1753
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1878
 HT FLOW CONVERGENCE VALUE= .4528E-01 CRITERION= .1728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 652
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1746
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1892
 HT FLOW CONVERGENCE VALUE= .4515E-01 CRITERION= .1720 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 653
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1879
 HT FLOW CONVERGENCE VALUE= .4486E-01 CRITERION= .1713 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 654
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1731
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1893
 HT FLOW CONVERGENCE VALUE= .4468E-01 CRITERION= .1705 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 655
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1881
 HT FLOW CONVERGENCE VALUE= .4442E-01 CRITERION= .1698 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 656
 *** TIME = .828387E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1894
 HT FLOW CONVERGENCE VALUE= .4425E-01 CRITERION= .1690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 657
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1882
 HT FLOW CONVERGENCE VALUE= .4399E-01 CRITERION= .1683 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 658
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1895
 HT FLOW CONVERGENCE VALUE= .4384E-01 CRITERION= .1675 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 659
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1693
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1883
HT FLOW CONVERGENCE VALUE= .4359E-01 CRITERION= .1668 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 660

*** TIME = .859945E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1686
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1896
HT FLOW CONVERGENCE VALUE= .4343E-01 CRITERION= .1660 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 661

*** TIME = .867834E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1679
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1885
HT FLOW CONVERGENCE VALUE= .4319E-01 CRITERION= .1653 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 662

*** TIME = .875723E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1671
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1897
HT FLOW CONVERGENCE VALUE= .4303E-01 CRITERION= .1645 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 663

*** TIME = .883613E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1664
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1886
HT FLOW CONVERGENCE VALUE= .4279E-01 CRITERION= .1638 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 664

*** TIME = .891502E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1657
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1898
HT FLOW CONVERGENCE VALUE= .4262E-01 CRITERION= .1630 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 665

*** TIME = .899392E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1649
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1887
HT FLOW CONVERGENCE VALUE= .4237E-01 CRITERION= .1623 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 666

*** TIME = .907281E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1642
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1899
HT FLOW CONVERGENCE VALUE= .4218E-01 CRITERION= .1615 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 667

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*** TIME = .915170E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1634
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1889
HT FLOW CONVERGENCE VALUE= .4195E-01 CRITERION= .1608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 668
*** TIME = .923060E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1627
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1900
HT FLOW CONVERGENCE VALUE= .4177E-01 CRITERION= .1600 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 669
*** TIME = .930949E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 25.01 CRITERION= .1619
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1890
HT FLOW CONVERGENCE VALUE= .4155E-01 CRITERION= .1593 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 670
*** TIME = .938839E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6366E-04 OSCILLATION LIMIT = 502.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 24.96 CRITERION= .1612
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1901
HT FLOW CONVERGENCE VALUE= .4137E-01 CRITERION= .1585 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 671
*** TIME = .946728E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6391E-04 OSCILLATION LIMIT = 504.2
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:55:27 JUN 11, 1995 CP= 42063.200
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1586
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1849
HT FLOW CONVERGENCE VALUE= .3518E-01 CRITERION= .1580 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 672
*** TIME = .954617E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4873E-04 OSCILLATION LIMIT = 384.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1581
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1838
HT FLOW CONVERGENCE VALUE= .3460E-01 CRITERION= .1573 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 673
*** TIME = .962507E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4902E-04 OSCILLATION LIMIT = 386.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1575
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1828
HT FLOW CONVERGENCE VALUE= .3417E-01 CRITERION= .1568 <<< CONVERGED
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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 674
*** TIME = .970396E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4904E-04 OSCILLATION LIMIT = 386.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1569
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1841
HT FLOW CONVERGENCE VALUE= .3436E-01 CRITERION= .1562 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 675
*** TIME = .978286E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4902E-04 OSCILLATION LIMIT = 386.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1563
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1829
HT FLOW CONVERGENCE VALUE= .3393E-01 CRITERION= .1557 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 676
*** TIME = .986175E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4903E-04 OSCILLATION LIMIT = 386.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1558
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1842
HT FLOW CONVERGENCE VALUE= .3412E-01 CRITERION= .1550 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 677
*** TIME = .994064E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4901E-04 OSCILLATION LIMIT = 386.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1552
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1830
HT FLOW CONVERGENCE VALUE= .3369E-01 CRITERION= .1545 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 678
*** TIME = .100195E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4902E-04 OSCILLATION LIMIT = 386.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1547
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1843
HT FLOW CONVERGENCE VALUE= .3388E-01 CRITERION= .1539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 679
*** TIME = .100984E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4901E-04 OSCILLATION LIMIT = 386.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1832
HT FLOW CONVERGENCE VALUE= .3347E-01 CRITERION= .1534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 680
*** TIME = .101773E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4901E-04 OSCILLATION LIMIT = 386.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1535
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1844
HT FLOW CONVERGENCE VALUE= .3364E-01 CRITERION= .1527 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 681
*** TIME = .102562E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4900E-04 OSCILLATION LIMIT = 386.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1529

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1833
HT FLOW CONVERGENCE VALUE= .3324E-01 CRITERION= .1522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 682
*** TIME = .103351E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4900E-04 OSCILLATION LIMIT = 386.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1845
HT FLOW CONVERGENCE VALUE= .3340E-01 CRITERION= .1516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 683
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4899E-04 OSCILLATION LIMIT = 386.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1835
HT FLOW CONVERGENCE VALUE= .3300E-01 CRITERION= .1511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 684
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4899E-04 OSCILLATION LIMIT = 386.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1512
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1846
HT FLOW CONVERGENCE VALUE= .3315E-01 CRITERION= .1505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 685
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4899E-04 OSCILLATION LIMIT = 386.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.214 CRITERION= .1506
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1836
HT FLOW CONVERGENCE VALUE= .3275E-01 CRITERION= .1499 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 686
*** TIME = .106507E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4898E-04 OSCILLATION LIMIT = 386.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1501
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1847
HT FLOW CONVERGENCE VALUE= .3290E-01 CRITERION= .1493 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 687
*** TIME = .107296E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4898E-04 OSCILLATION LIMIT = 386.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1494
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1838
HT FLOW CONVERGENCE VALUE= .3251E-01 CRITERION= .1488 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 688
*** TIME = .108085E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4897E-04 OSCILLATION LIMIT = 386.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.166 CRITERION= .1489
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1848
HT FLOW CONVERGENCE VALUE= .3265E-01 CRITERION= .1482 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 689
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4897E-04 OSCILLATION LIMIT = 386.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1483
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1839
 HT FLOW CONVERGENCE VALUE= .3228E-01 CRITERION= .1476 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 690
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4896E-04 OSCILLATION LIMIT = 386.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.165 CRITERION= .1478
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1849
 HT FLOW CONVERGENCE VALUE= .3241E-01 CRITERION= .1470 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 691
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4897E-04 OSCILLATION LIMIT = 386.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1472
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1841
 HT FLOW CONVERGENCE VALUE= .3205E-01 CRITERION= .1465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 692
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4896E-04 OSCILLATION LIMIT = 386.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.165 CRITERION= .1466
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1851
 HT FLOW CONVERGENCE VALUE= .3217E-01 CRITERION= .1459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 693
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4896E-04 OSCILLATION LIMIT = 386.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1460
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1842
 HT FLOW CONVERGENCE VALUE= .3181E-01 CRITERION= .1453 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 694
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4895E-04 OSCILLATION LIMIT = 386.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.165 CRITERION= .1455
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1852
 HT FLOW CONVERGENCE VALUE= .3193E-01 CRITERION= .1447 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 695
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4895E-04 OSCILLATION LIMIT = 386.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1449
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1843
 HT FLOW CONVERGENCE VALUE= .3158E-01 CRITERION= .1442 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 696
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .4894E-04 OSCILLATION LIMIT = 386.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.165 CRITERION= .1443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1853
 HT FLOW CONVERGENCE VALUE= .3169E-01 CRITERION= .1436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 697
 *** TIME = .115185E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .4895E-04  OSCILLATION LIMIT = 386.2
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.213  CRITERION= .1437
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1845
  HT FLOW CONVERGENCE VALUE= .3135E-01 CRITERION= .1430  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 698
*** TIME = .115974E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4893E-04  OSCILLATION LIMIT = 386.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.165  CRITERION= .1432
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1854
  HT FLOW CONVERGENCE VALUE= .3146E-01 CRITERION= .1424  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 699
*** TIME = .116763E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4894E-04  OSCILLATION LIMIT = 386.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.213  CRITERION= .1426
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1846
  HT FLOW CONVERGENCE VALUE= .3112E-01 CRITERION= .1419  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 700
*** TIME = .117552E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4892E-04  OSCILLATION LIMIT = 385.9
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.165  CRITERION= .1420
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1855
  HT FLOW CONVERGENCE VALUE= .3122E-01 CRITERION= .1413  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 701
*** TIME = .118341E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4893E-04  OSCILLATION LIMIT = 386.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.213  CRITERION= .1414
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1848
  HT FLOW CONVERGENCE VALUE= .3089E-01 CRITERION= .1407  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 702
*** TIME = .119130E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4891E-04  OSCILLATION LIMIT = 385.9
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.165  CRITERION= .1409
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1856
  HT FLOW CONVERGENCE VALUE= .3098E-01 CRITERION= .1401  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 703
*** TIME = .119919E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4893E-04  OSCILLATION LIMIT = 386.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.213  CRITERION= .1403
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1849
  HT FLOW CONVERGENCE VALUE= .3066E-01 CRITERION= .1396  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 704
*** TIME = .120708E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4890E-04  OSCILLATION LIMIT = 385.8
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 7.165  CRITERION= .1397
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1857
  HT FLOW CONVERGENCE VALUE= .3074E-01 CRITERION= .1390  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 705
*** TIME = .121497E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4892E-04 OSCILLATION LIMIT = 386.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1391
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1851
HT FLOW CONVERGENCE VALUE= .3042E-01 CRITERION= .1384 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 706
*** TIME = .122286E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4889E-04 OSCILLATION LIMIT = 385.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.165 CRITERION= .1386
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1859
HT FLOW CONVERGENCE VALUE= .3050E-01 CRITERION= .1378 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 707
*** TIME = .123075E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4891E-04 OSCILLATION LIMIT = 385.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1380
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1852
HT FLOW CONVERGENCE VALUE= .3019E-01 CRITERION= .1373 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 708
*** TIME = .123864E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4888E-04 OSCILLATION LIMIT = 385.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.165 CRITERION= .1374
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1860
HT FLOW CONVERGENCE VALUE= .3026E-01 CRITERION= .1367 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 709
*** TIME = .124653E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4891E-04 OSCILLATION LIMIT = 385.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.213 CRITERION= .1368
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1854
HT FLOW CONVERGENCE VALUE= .2995E-01 CRITERION= .1361 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 710
*** TIME = .125441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4887E-04 OSCILLATION LIMIT = 385.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.165 CRITERION= .1363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1861
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .1355 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 711
*** TIME = .126230E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .4890E-04 OSCILLATION LIMIT = 385.8

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 23:40:17 JUN 11, 1995 CP= 44660.630
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1355
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739

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HT FLOW CONVERGENCE VALUE= .3160E-01 CRITERION= .1351 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 712
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3349E-04 OSCILLATION LIMIT = 264.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1741
 HT FLOW CONVERGENCE VALUE= .3150E-01 CRITERION= .1346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 713
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3355E-04 OSCILLATION LIMIT = 264.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1345
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1735
 HT FLOW CONVERGENCE VALUE= .3116E-01 CRITERION= .1341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 714
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3353E-04 OSCILLATION LIMIT = 264.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1341
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1742
 HT FLOW CONVERGENCE VALUE= .3129E-01 CRITERION= .1336 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 715
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3355E-04 OSCILLATION LIMIT = 264.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1336
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
 HT FLOW CONVERGENCE VALUE= .3093E-01 CRITERION= .1332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 716
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3353E-04 OSCILLATION LIMIT = 264.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1332
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1743
 HT FLOW CONVERGENCE VALUE= .3105E-01 CRITERION= .1327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 717
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3355E-04 OSCILLATION LIMIT = 264.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1327
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1738
 HT FLOW CONVERGENCE VALUE= .3072E-01 CRITERION= .1323 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 718
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1322
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1744
 HT FLOW CONVERGENCE VALUE= .3083E-01 CRITERION= .1317 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 719
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3355E-04 OSCILLATION LIMIT = 264.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1317
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739
 HT FLOW CONVERGENCE VALUE= .3050E-01 CRITERION= .1313 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 720
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1745
 HT FLOW CONVERGENCE VALUE= .3062E-01 CRITERION= .1308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 721
 *** TIME = .134120E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3355E-04 OSCILLATION LIMIT = 264.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1308
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1740
 HT FLOW CONVERGENCE VALUE= .3029E-01 CRITERION= .1304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 722
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1746
 HT FLOW CONVERGENCE VALUE= .3040E-01 CRITERION= .1299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 723
 *** TIME = .135698E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3354E-04 OSCILLATION LIMIT = 264.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1742
 HT FLOW CONVERGENCE VALUE= .3009E-01 CRITERION= .1294 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 724
 *** TIME = .136487E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1747
 HT FLOW CONVERGENCE VALUE= .3019E-01 CRITERION= .1289 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 725
 *** TIME = .137276E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3354E-04 OSCILLATION LIMIT = 264.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1743
 HT FLOW CONVERGENCE VALUE= .2988E-01 CRITERION= .1285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 726
 *** TIME = .138065E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3351E-04 OSCILLATION LIMIT = 264.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1748
 HT FLOW CONVERGENCE VALUE= .2999E-01 CRITERION= .1280 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 727
 *** TIME = .138853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .3354E-04 OSCILLATION LIMIT = 264.6

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1280
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1744
HT FLOW CONVERGENCE VALUE= .2968E-01 CRITERION= .1276 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 728
*** TIME = .139642E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3351E-04 OSCILLATION LIMIT = 264.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1275
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1750
HT FLOW CONVERGENCE VALUE= .2978E-01 CRITERION= .1270 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 729
*** TIME = .140431E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3354E-04 OSCILLATION LIMIT = 264.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1270
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1746
HT FLOW CONVERGENCE VALUE= .2947E-01 CRITERION= .1266 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 730
*** TIME = .141220E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3351E-04 OSCILLATION LIMIT = 264.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1266
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1751
HT FLOW CONVERGENCE VALUE= .2954E-01 CRITERION= .1261 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 731
*** TIME = .142009E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3353E-04 OSCILLATION LIMIT = 264.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1261
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1747
HT FLOW CONVERGENCE VALUE= .2923E-01 CRITERION= .1257 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 732
*** TIME = .142798E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3351E-04 OSCILLATION LIMIT = 264.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1257
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1752
HT FLOW CONVERGENCE VALUE= .2929E-01 CRITERION= .1252 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 733
*** TIME = .143587E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3353E-04 OSCILLATION LIMIT = 264.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1251
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1748
HT FLOW CONVERGENCE VALUE= .2899E-01 CRITERION= .1247 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 734
*** TIME = .144376E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3350E-04 OSCILLATION LIMIT = 264.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9441 CRITERION= .1247
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1753
HT FLOW CONVERGENCE VALUE= .2908E-01 CRITERION= .1242 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 735

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*** TIME = .145165E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3353E-04    OSCILLATION LIMIT = 264.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9023    CRITERION= .1242
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1749
    HT FLOW CONVERGENCE VALUE= .2874E-01    CRITERION= .1238    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 736
*** TIME = .145954E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3350E-04    OSCILLATION LIMIT = 264.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9440    CRITERION= .1238
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1754
    HT FLOW CONVERGENCE VALUE= .2879E-01    CRITERION= .1233    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 737
*** TIME = .146743E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3353E-04    OSCILLATION LIMIT = 264.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9023    CRITERION= .1233
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1751
    HT FLOW CONVERGENCE VALUE= .2847E-01    CRITERION= .1229    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 738
*** TIME = .147532E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3350E-04    OSCILLATION LIMIT = 264.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9440    CRITERION= .1228
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1755
    HT FLOW CONVERGENCE VALUE= .2853E-01    CRITERION= .1223    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 739
*** TIME = .148321E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3352E-04    OSCILLATION LIMIT = 264.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9023    CRITERION= .1223
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1752
    HT FLOW CONVERGENCE VALUE= .2824E-01    CRITERION= .1219    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 740
*** TIME = .149110E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3350E-04    OSCILLATION LIMIT = 264.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9440    CRITERION= .1219
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1756
    HT FLOW CONVERGENCE VALUE= .2830E-01    CRITERION= .1214    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 741
*** TIME = .149899E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3352E-04    OSCILLATION LIMIT = 264.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9023    CRITERION= .1214
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1753
    HT FLOW CONVERGENCE VALUE= .2801E-01    CRITERION= .1210    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 742
*** TIME = .150688E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3349E-04    OSCILLATION LIMIT = 264.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .9440    CRITERION= .1210
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1757
    HT FLOW CONVERGENCE VALUE= .2807E-01    CRITERION= .1205    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 743
*** TIME = .151476E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1204
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1754
HT FLOW CONVERGENCE VALUE= .2777E-01 CRITERION= .1200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 744
*** TIME = .152265E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3349E-04 OSCILLATION LIMIT = 264.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9440 CRITERION= .1200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1758
HT FLOW CONVERGENCE VALUE= .2781E-01 CRITERION= .1195 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 745
*** TIME = .153054E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1756
HT FLOW CONVERGENCE VALUE= .2751E-01 CRITERION= .1191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 746
*** TIME = .153843E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3349E-04 OSCILLATION LIMIT = 264.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9440 CRITERION= .1191
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1759
HT FLOW CONVERGENCE VALUE= .2753E-01 CRITERION= .1186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 747
*** TIME = .154632E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1186
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1757
HT FLOW CONVERGENCE VALUE= .2722E-01 CRITERION= .1182 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 748
*** TIME = .155421E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3349E-04 OSCILLATION LIMIT = 264.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9440 CRITERION= .1181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1761
HT FLOW CONVERGENCE VALUE= .2721E-01 CRITERION= .1176 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 749
*** TIME = .156210E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9023 CRITERION= .1176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1758
HT FLOW CONVERGENCE VALUE= .2691E-01 CRITERION= .1172 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 750
*** TIME = .156999E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3349E-04 OSCILLATION LIMIT = 264.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= .9440 CRITERION= .1172

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1762
HT FLOW CONVERGENCE VALUE= .2692E-01 CRITERION= .1167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 751
*** TIME = .157788E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .3352E-04 OSCILLATION LIMIT = 264.4
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:24:22 JUN 12, 1995 CP= 47219.470
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1533
HT FLOW CONVERGENCE VALUE= .2655E-01 CRITERION= .1164 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 752
*** TIME = .158577E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2337E-04 OSCILLATION LIMIT = 184.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .1165
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1538
HT FLOW CONVERGENCE VALUE= .2654E-01 CRITERION= .1160 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 753
*** TIME = .159366E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-04 OSCILLATION LIMIT = 184.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1161
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1538
HT FLOW CONVERGENCE VALUE= .2631E-01 CRITERION= .1156 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 754
*** TIME = .160155E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2342E-04 OSCILLATION LIMIT = 184.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .1157
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1539
HT FLOW CONVERGENCE VALUE= .2637E-01 CRITERION= .1152 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 755
*** TIME = .160944E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-04 OSCILLATION LIMIT = 185.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1153
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1539
HT FLOW CONVERGENCE VALUE= .2615E-01 CRITERION= .1149 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 756
*** TIME = .161733E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2342E-04 OSCILLATION LIMIT = 184.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .1150
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1540
HT FLOW CONVERGENCE VALUE= .2621E-01 CRITERION= .1145 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 757
*** TIME = .162522E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1146
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1540
 HT FLOW CONVERGENCE VALUE= .2598E-01 CRITERION= .1142 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 758
 *** TIME = .163311E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2342E-04 OSCILLATION LIMIT = 184.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .1143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1541
 HT FLOW CONVERGENCE VALUE= .2603E-01 CRITERION= .1138 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 759
 *** TIME = .164100E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1541
 HT FLOW CONVERGENCE VALUE= .2579E-01 CRITERION= .1134 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 760
 *** TIME = .164888E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2343E-04 OSCILLATION LIMIT = 184.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .1135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1542
 HT FLOW CONVERGENCE VALUE= .2584E-01 CRITERION= .1130 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 761
 *** TIME = .165677E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1131
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1543
 HT FLOW CONVERGENCE VALUE= .2561E-01 CRITERION= .1127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 762
 *** TIME = .166466E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2343E-04 OSCILLATION LIMIT = 184.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .1128
 EQUIL ITER 1 COMPLETE. NEW TRIANG MATRIX. MAX DOF INC= -.1543
 HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .1123 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 763
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1544
 HT FLOW CONVERGENCE VALUE= .2545E-01 CRITERION= .1119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 764
 *** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2343E-04 OSCILLATION LIMIT = 184.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .1121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1544
 HT FLOW CONVERGENCE VALUE= .2549E-01 CRITERION= .1115 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 765
 *** TIME = .168833E+10 TIME INC = .788940E+07


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*** RESPONSE EIGENVALUE = .2346E-04  OSCILLATION LIMIT = 185.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.337  CRITERION= .1116
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1545
  HT FLOW CONVERGENCE VALUE= .2527E-01 CRITERION= .1112  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 766
*** TIME = .169622E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-04  OSCILLATION LIMIT = 184.9
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.385  CRITERION= .1113
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1545
  HT FLOW CONVERGENCE VALUE= .2532E-01 CRITERION= .1108  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 767
*** TIME = .170411E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2346E-04  OSCILLATION LIMIT = 185.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.337  CRITERION= .1109
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1546
  HT FLOW CONVERGENCE VALUE= .2512E-01 CRITERION= .1105  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 768
*** TIME = .171200E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-04  OSCILLATION LIMIT = 184.9
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.385  CRITERION= .1106
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1546
  HT FLOW CONVERGENCE VALUE= .2517E-01 CRITERION= .1101  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 769
*** TIME = .171989E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2346E-04  OSCILLATION LIMIT = 185.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.337  CRITERION= .1102
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1547
  HT FLOW CONVERGENCE VALUE= .2496E-01 CRITERION= .1097  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 770
*** TIME = .172778E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-04  OSCILLATION LIMIT = 184.9
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.386  CRITERION= .1098
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1547
  HT FLOW CONVERGENCE VALUE= .2501E-01 CRITERION= .1093  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 771
*** TIME = .173567E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2346E-04  OSCILLATION LIMIT = 185.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.337  CRITERION= .1094
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1548
  HT FLOW CONVERGENCE VALUE= .2481E-01 CRITERION= .1090  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 772
*** TIME = .174356E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2344E-04  OSCILLATION LIMIT = 185.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 5.386  CRITERION= .1091
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1548
  HT FLOW CONVERGENCE VALUE= .2486E-01 CRITERION= .1086  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 773
 *** TIME = .175145E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2347E-04 OSCILLATION LIMIT = 185.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.337 CRITERION= .1087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1549
 HT FLOW CONVERGENCE VALUE= .2466E-01 CRITERION= .1083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 774
 *** TIME = .175934E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1084
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1549
 HT FLOW CONVERGENCE VALUE= .2470E-01 CRITERION= .1078 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 775
 *** TIME = .176723E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2347E-04 OSCILLATION LIMIT = 185.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1550
 HT FLOW CONVERGENCE VALUE= .2450E-01 CRITERION= .1075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 776
 *** TIME = .177512E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1550
 HT FLOW CONVERGENCE VALUE= .2454E-01 CRITERION= .1071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 777
 *** TIME = .178300E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2347E-04 OSCILLATION LIMIT = 185.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1072
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1551
 HT FLOW CONVERGENCE VALUE= .2435E-01 CRITERION= .1068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 778
 *** TIME = .179089E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1069
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1551
 HT FLOW CONVERGENCE VALUE= .2439E-01 CRITERION= .1064 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 779
 *** TIME = .179878E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2347E-04 OSCILLATION LIMIT = 185.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1065
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1552
 HT FLOW CONVERGENCE VALUE= .2420E-01 CRITERION= .1060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 780
 *** TIME = .180667E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 185.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1552

HT FLOW CONVERGENCE VALUE= .2424E-01 CRITERION= .1056 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 781
 *** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2348E-04 OSCILLATION LIMIT = 185.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1554
 HT FLOW CONVERGENCE VALUE= .2404E-01 CRITERION= .1053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 782
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 185.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1553
 HT FLOW CONVERGENCE VALUE= .2408E-01 CRITERION= .1049 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 783
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2348E-04 OSCILLATION LIMIT = 185.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1555
 HT FLOW CONVERGENCE VALUE= .2389E-01 CRITERION= .1046 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 784
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 185.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1555
 HT FLOW CONVERGENCE VALUE= .2392E-01 CRITERION= .1042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 785
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2348E-04 OSCILLATION LIMIT = 185.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1556
 HT FLOW CONVERGENCE VALUE= .2374E-01 CRITERION= .1038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 786
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 185.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1039
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1555
 HT FLOW CONVERGENCE VALUE= .2377E-01 CRITERION= .1034 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 787
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2348E-04 OSCILLATION LIMIT = 185.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1035
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1557
 HT FLOW CONVERGENCE VALUE= .2358E-01 CRITERION= .1031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 788
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2347E-04 OSCILLATION LIMIT = 185.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1556
 HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .1027 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 789
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2348E-04 OSCILLATION LIMIT = 185.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.338 CRITERION= .1028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1558
 HT FLOW CONVERGENCE VALUE= .2343E-01 CRITERION= .1023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 790
 *** TIME = .188557E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2347E-04 OSCILLATION LIMIT = 185.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .1025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1557
 HT FLOW CONVERGENCE VALUE= .2346E-01 CRITERION= .1019 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 791
 *** TIME = .189346E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2349E-04 OSCILLATION LIMIT = 185.3

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:08:21 JUN 12, 1995 CP= 49773.680
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 6.494 CRITERION= .1021
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1326
 HT FLOW CONVERGENCE VALUE= .2128E-01 CRITERION= .1017 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 792
 *** TIME = .190135E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1922E-04 OSCILLATION LIMIT = 151.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.542 CRITERION= .1019
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1330
 HT FLOW CONVERGENCE VALUE= .2130E-01 CRITERION= .1013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 793
 *** TIME = .190923E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1929E-04 OSCILLATION LIMIT = 152.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.494 CRITERION= .1015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1334
 HT FLOW CONVERGENCE VALUE= .2117E-01 CRITERION= .1011 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 794
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1930E-04 OSCILLATION LIMIT = 152.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.542 CRITERION= .1013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1331
 HT FLOW CONVERGENCE VALUE= .2119E-01 CRITERION= .1007 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 795
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1929E-04 OSCILLATION LIMIT = 152.2

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.494 CRITERION= .1009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1335
 HT FLOW CONVERGENCE VALUE= .2106E-01 CRITERION= .1005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 796
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1930E-04 OSCILLATION LIMIT = 152.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.542 CRITERION= .1007
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1332
 HT FLOW CONVERGENCE VALUE= .2108E-01 CRITERION= .1002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 797
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1929E-04 OSCILLATION LIMIT = 152.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.494 CRITERION= .1004
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1336
 HT FLOW CONVERGENCE VALUE= .2094E-01 CRITERION= .9989E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 798
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1930E-04 OSCILLATION LIMIT = 152.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.542 CRITERION= .1001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1332
 HT FLOW CONVERGENCE VALUE= .2096E-01 CRITERION= .9956E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 799
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1929E-04 OSCILLATION LIMIT = 152.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.494 CRITERION= .9976E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1337
 HT FLOW CONVERGENCE VALUE= .2083E-01 CRITERION= .9930E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 800
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1930E-04 OSCILLATION LIMIT = 152.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.542 CRITERION= .9950E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1333
 HT FLOW CONVERGENCE VALUE= .2085E-01 CRITERION= .9896E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 801
 *** TIME = .197235E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1930E-04 OSCILLATION LIMIT = 152.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.494 CRITERION= .9916E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1337
 HT FLOW CONVERGENCE VALUE= .2072E-01 CRITERION= .9870E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 802
 *** TIME = .198024E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1931E-04 OSCILLATION LIMIT = 152.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.542 CRITERION= .9890E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1334
 HT FLOW CONVERGENCE VALUE= .2073E-01 CRITERION= .9837E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 803

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*** TIME = .198813E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1930E-04    OSCILLATION LIMIT = 152.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.494    CRITERION= .9857E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1338
    HT FLOW CONVERGENCE VALUE= .2060E-01    CRITERION= .9810E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 804
*** TIME = .199602E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1931E-04    OSCILLATION LIMIT = 152.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.543    CRITERION= .9831E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1335
    HT FLOW CONVERGENCE VALUE= .2062E-01    CRITERION= .9777E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 805
*** TIME = .200391E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1930E-04    OSCILLATION LIMIT = 152.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.495    CRITERION= .9797E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1339
    HT FLOW CONVERGENCE VALUE= .2049E-01    CRITERION= .9751E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 806
*** TIME = .201180E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1931E-04    OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.543    CRITERION= .9771E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1336
    HT FLOW CONVERGENCE VALUE= .2051E-01    CRITERION= .9717E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 807
*** TIME = .201969E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1931E-04    OSCILLATION LIMIT = 152.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.495    CRITERION= .9738E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1340
    HT FLOW CONVERGENCE VALUE= .2038E-01    CRITERION= .9691E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 808
*** TIME = .202758E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04    OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.543    CRITERION= .9712E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1336
    HT FLOW CONVERGENCE VALUE= .2040E-01    CRITERION= .9658E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 809
*** TIME = .203547E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1931E-04    OSCILLATION LIMIT = 152.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.495    CRITERION= .9678E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1340
    HT FLOW CONVERGENCE VALUE= .2027E-01    CRITERION= .9631E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 810
*** TIME = .204335E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04    OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.543    CRITERION= .9652E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1337
    HT FLOW CONVERGENCE VALUE= .2029E-01    CRITERION= .9598E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 811
*** TIME = .205124E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1931E-04 OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9619E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1341
HT FLOW CONVERGENCE VALUE= .2015E-01 CRITERION= .9572E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 812
*** TIME = .205913E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04 OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9593E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1338
HT FLOW CONVERGENCE VALUE= .2017E-01 CRITERION= .9538E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 813
*** TIME = .206702E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04 OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9559E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1342
HT FLOW CONVERGENCE VALUE= .2004E-01 CRITERION= .9512E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 814
*** TIME = .207491E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9533E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1339
HT FLOW CONVERGENCE VALUE= .2006E-01 CRITERION= .9479E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 815
*** TIME = .208280E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04 OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9500E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1343
HT FLOW CONVERGENCE VALUE= .1993E-01 CRITERION= .9453E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 816
*** TIME = .209069E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1933E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9474E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1340
HT FLOW CONVERGENCE VALUE= .1995E-01 CRITERION= .9419E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 817
*** TIME = .209858E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04 OSCILLATION LIMIT = 152.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9440E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1344
HT FLOW CONVERGENCE VALUE= .1982E-01 CRITERION= .9393E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 818
*** TIME = .210647E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1933E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9414E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1340
HT FLOW CONVERGENCE VALUE= .1984E-01 CRITERION= .9359E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 819
*** TIME = .211436E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1932E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9381E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1344
HT FLOW CONVERGENCE VALUE= .1971E-01 CRITERION= .9333E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 820
*** TIME = .212225E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1933E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9355E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1341
HT FLOW CONVERGENCE VALUE= .1971E-01 CRITERION= .9300E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 821
*** TIME = .213014E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1933E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9321E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1345
HT FLOW CONVERGENCE VALUE= .1953E-01 CRITERION= .9274E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 822
*** TIME = .213803E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1933E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9295E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1342
HT FLOW CONVERGENCE VALUE= .1955E-01 CRITERION= .9240E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 823
*** TIME = .214592E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1933E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9262E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1346
HT FLOW CONVERGENCE VALUE= .1939E-01 CRITERION= .9214E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 824
*** TIME = .215381E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1934E-04 OSCILLATION LIMIT = 152.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9236E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1342
HT FLOW CONVERGENCE VALUE= .1937E-01 CRITERION= .9181E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 825
*** TIME = .216170E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1933E-04 OSCILLATION LIMIT = 152.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9202E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1346
HT FLOW CONVERGENCE VALUE= .1923E-01 CRITERION= .9154E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 826
*** TIME = .216959E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1934E-04 OSCILLATION LIMIT = 152.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

```


HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9176E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1343
 HT FLOW CONVERGENCE VALUE= .1922E-01 CRITERION= .9121E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 827
 *** TIME = .217747E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1934E-04 OSCILLATION LIMIT = 152.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9143E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1347
 HT FLOW CONVERGENCE VALUE= .1904E-01 CRITERION= .9095E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 828
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1934E-04 OSCILLATION LIMIT = 152.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9117E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1344
 HT FLOW CONVERGENCE VALUE= .1905E-01 CRITERION= .9061E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 829
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1934E-04 OSCILLATION LIMIT = 152.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.495 CRITERION= .9083E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1348
 HT FLOW CONVERGENCE VALUE= .1892E-01 CRITERION= .9035E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 830
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1935E-04 OSCILLATION LIMIT = 152.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.543 CRITERION= .9057E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1345
 HT FLOW CONVERGENCE VALUE= .1894E-01 CRITERION= .9002E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 831
 *** TIME = .220903E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1934E-04 OSCILLATION LIMIT = 152.6

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:52:17 JUN 12, 1995 CP= 52327.660
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .9067E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1289
 HT FLOW CONVERGENCE VALUE= .2134E-01 CRITERION= .8981E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 832
 *** TIME = .221692E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .9047E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1284
 HT FLOW CONVERGENCE VALUE= .2128E-01 CRITERION= .8953E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 833
 *** TIME = .222481E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = 86.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .9019E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1288
 HT FLOW CONVERGENCE VALUE= .2114E-01 CRITERION= .8933E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 834
 *** TIME = .223270E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 86.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8999E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1285
 HT FLOW CONVERGENCE VALUE= .2118E-01 CRITERION= .8905E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 835
 *** TIME = .224059E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1102E-04 OSCILLATION LIMIT = 86.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8971E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1288
 HT FLOW CONVERGENCE VALUE= .2104E-01 CRITERION= .8884E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 836
 *** TIME = .224848E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 87.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8951E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1285
 HT FLOW CONVERGENCE VALUE= .2108E-01 CRITERION= .8856E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 837
 *** TIME = .225637E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1102E-04 OSCILLATION LIMIT = 86.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8923E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1289
 HT FLOW CONVERGENCE VALUE= .2092E-01 CRITERION= .8836E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 838
 *** TIME = .226426E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 87.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8903E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1286
 HT FLOW CONVERGENCE VALUE= .2093E-01 CRITERION= .8808E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 839
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 87.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8875E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1289
 HT FLOW CONVERGENCE VALUE= .2080E-01 CRITERION= .8787E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 840
 *** TIME = .228004E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8855E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1286
 HT FLOW CONVERGENCE VALUE= .2083E-01 CRITERION= .8759E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 841
 *** TIME = .228793E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 87.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8827E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1290
 HT FLOW CONVERGENCE VALUE= .2069E-01 CRITERION= .8739E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 842
 *** TIME = .229582E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8807E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1287
 HT FLOW CONVERGENCE VALUE= .2073E-01 CRITERION= .8711E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 843
 *** TIME = .230370E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8779E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1290
 HT FLOW CONVERGENCE VALUE= .2059E-01 CRITERION= .8690E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 844
 *** TIME = .231159E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8758E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1288
 HT FLOW CONVERGENCE VALUE= .2062E-01 CRITERION= .8662E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 845
 *** TIME = .231948E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8731E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1291
 HT FLOW CONVERGENCE VALUE= .2049E-01 CRITERION= .8642E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 846
 *** TIME = .232737E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 87.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8710E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1288
 HT FLOW CONVERGENCE VALUE= .2052E-01 CRITERION= .8614E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 847
 *** TIME = .233526E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8682E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1292
 HT FLOW CONVERGENCE VALUE= .2039E-01 CRITERION= .8593E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 848
 *** TIME = .234315E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 87.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8662E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1289

HT FLOW CONVERGENCE VALUE= .2042E-01 CRITERION= .8566E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 849
 *** TIME = .235104E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 87.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8634E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1292
 HT FLOW CONVERGENCE VALUE= .2029E-01 CRITERION= .8545E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 850
 *** TIME = .235893E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8614E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1289
 HT FLOW CONVERGENCE VALUE= .2030E-01 CRITERION= .8517E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 851
 *** TIME = .236682E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 87.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8586E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1293
 HT FLOW CONVERGENCE VALUE= .1980E-01 CRITERION= .8496E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 852
 *** TIME = .237471E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8566E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1290
 HT FLOW CONVERGENCE VALUE= .1969E-01 CRITERION= .8469E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 853
 *** TIME = .238260E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8538E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1293
 HT FLOW CONVERGENCE VALUE= .1943E-01 CRITERION= .8448E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 854
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1107E-04 OSCILLATION LIMIT = 87.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8518E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1291
 HT FLOW CONVERGENCE VALUE= .1946E-01 CRITERION= .8420E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 855
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8490E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
 HT FLOW CONVERGENCE VALUE= .1933E-01 CRITERION= .8399E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 856
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1107E-04 OSCILLATION LIMIT = 87.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8470E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1291
 HT FLOW CONVERGENCE VALUE= .1932E-01 CRITERION= .8372E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 857
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1107E-04 OSCILLATION LIMIT = 87.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8442E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
 HT FLOW CONVERGENCE VALUE= .1918E-01 CRITERION= .8351E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 858
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8422E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1292
 HT FLOW CONVERGENCE VALUE= .1919E-01 CRITERION= .8323E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 859
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1107E-04 OSCILLATION LIMIT = 87.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8394E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
 HT FLOW CONVERGENCE VALUE= .1894E-01 CRITERION= .8303E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 860
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8374E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1292
 HT FLOW CONVERGENCE VALUE= .1887E-01 CRITERION= .8275E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 861
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8346E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1296
 HT FLOW CONVERGENCE VALUE= .1875E-01 CRITERION= .8254E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 862
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8326E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1293
 HT FLOW CONVERGENCE VALUE= .1877E-01 CRITERION= .8226E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 863
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8298E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1296
 HT FLOW CONVERGENCE VALUE= .1865E-01 CRITERION= .8206E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 864
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.50

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8278E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
 HT FLOW CONVERGENCE VALUE= .1866E-01 CRITERION= .8178E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 865
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8250E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1297
 HT FLOW CONVERGENCE VALUE= .1853E-01 CRITERION= .8157E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 866
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8230E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1294
 HT FLOW CONVERGENCE VALUE= .1855E-01 CRITERION= .8129E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 867
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8202E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1297
 HT FLOW CONVERGENCE VALUE= .1843E-01 CRITERION= .8109E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 868
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = 87.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8182E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
 HT FLOW CONVERGENCE VALUE= .1845E-01 CRITERION= .8081E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 869
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = 87.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.96 CRITERION= .8154E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1298
 HT FLOW CONVERGENCE VALUE= .1833E-01 CRITERION= .8060E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 870
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = 87.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.01 CRITERION= .8134E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1295
 HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .8032E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 871
 *** TIME = .252461E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1110E-04 OSCILLATION LIMIT = 87.57

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:36:26 JUN 12, 1995 CP= 54883.400
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.066 CRITERION= .8083E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1031
 HT FLOW CONVERGENCE VALUE= .1475E-01 CRITERION= .8017E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 872
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.114 CRITERION= .8067E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1033
 HT FLOW CONVERGENCE VALUE= .1479E-01 CRITERION= .7994E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 873
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 27.25 CRITERION= .8444E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3185
 HT FLOW CONVERGENCE VALUE= .4427E-01 CRITERION= .7941E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 874
 *** TIME = .256406E+10 TIME INC = .236682E+08
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 72.75 CRITERION= .1076
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8470
 HT FLOW CONVERGENCE VALUE= .1158 CRITERION= .7785E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2836E-01
 HT FLOW CONVERGENCE VALUE= .1443E-02 CRITERION= .7784E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 876
 *** TIME = .262717E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.70 CRITERION= .1065
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8597
 HT FLOW CONVERGENCE VALUE= .1138 CRITERION= .7636E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2813E-01
 HT FLOW CONVERGENCE VALUE= .1390E-02 CRITERION= .7635E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 878
 *** TIME = .269029E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.75 CRITERION= .1054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8598
 HT FLOW CONVERGENCE VALUE= .1114 CRITERION= .7480E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2766E-01
 HT FLOW CONVERGENCE VALUE= .1337E-02 CRITERION= .7478E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 880
 *** TIME = .275340E+10 TIME INC = .631152E+08
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 72.71 CRITERION= .1043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8611
 HT FLOW CONVERGENCE VALUE= .1091 CRITERION= .7330E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2718E-01
 HT FLOW CONVERGENCE VALUE= .1285E-02 CRITERION= .7329E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 882
 *** TIME = .281652E+10 TIME INC = .631152E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+08 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= 27.30 CRITERION= .7818E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3231

HT FLOW CONVERGENCE VALUE= .4072E-01 CRITERION= .7269E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 883
 *** TIME = .284018E+10 TIME INC = .236682E+08
 Apply loads and solve for 100 to 1000 years

*DO LOOP ON PARAMETER= TM FROM .31558E+10 TO .31558E+11 BY .31558E+10
 TIME= .31558E+10

SELECT FOR ITEM=MAT, COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 1285.61410 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 158.87 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 159.18 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 159.84 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 55522.680 TIME= 02:47:23
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:47:23 JUN 12, 1995 CP= 55522.680
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 31
 TIME AT END OF THE LOAD STEP. 31558E+10
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5


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START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS . . . . . NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS . . . . . ON
TRANSIENT INTEGRATION PARAMETERS
THETA. . . . . .50000
OSCILLATION LIMIT CRITERION. . . . . .50000
TOLERANCE. . . . . .20000
TERMINATE ANALYSIS IF NOT CONVERGED . . . . .YES (EXIT)
CONVERGENCE CONTROLS. . . . .USE DEFAULTS
PRINT OUTPUT CONTROLS . . . . .NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . .ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP

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HT FLOW CONVERGENCE VALUE= 23.92 CRITERION= .7650E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2732
HT FLOW CONVERGENCE VALUE= .3509E-01 CRITERION= .7222E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 884
*** TIME = .286385E+10 TIME INC = .236682E+08
*** AUTO STEP TIME: NEXT TIME INC = .23668E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 23.97 CRITERION= .7607E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2739
HT FLOW CONVERGENCE VALUE= .3447E-01 CRITERION= .7168E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 885
*** TIME = .288752E+10 TIME INC = .236682E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 INCREASED (FACTOR = 2.6667)

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HT FLOW CONVERGENCE VALUE= 63.82 CRITERION= .9594E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7466
HT FLOW CONVERGENCE VALUE= .8925E-01 CRITERION= .7039E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2273E-01
HT FLOW CONVERGENCE VALUE= .1009E-02 CRITERION= .7038E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 887
*** TIME = .295064E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 63.87 CRITERION= .9499E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7552
HT FLOW CONVERGENCE VALUE= .8767E-01 CRITERION= .6902E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2249E-01
HT FLOW CONVERGENCE VALUE= .9765E-03 CRITERION= .6901E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 889
*** TIME = .301375E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .63115E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 63.83 CRITERION= .9396E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7566
HT FLOW CONVERGENCE VALUE= .8599E-01 CRITERION= .6771E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2211E-01
HT FLOW CONVERGENCE VALUE= .9397E-03 CRITERION= .6770E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 891
*** TIME = .307687E+10 TIME INC = .631152E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 DECREASED (FACTOR = .6250)

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HT FLOW CONVERGENCE VALUE= 39.93 CRITERION= .7856E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4726
HT FLOW CONVERGENCE VALUE= .5313E-01 CRITERION= .6684E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 892
*** TIME = .311631E+10 TIME INC = .394470E+08
*** AUTO STEP TIME: NEXT TIME INC = .39447E+08 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 39.88 CRITERION= .7781E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4598
 HT FLOW CONVERGENCE VALUE= .5209E-01 CRITERION= .6604E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 893
 *** TIME = .315576E+10 TIME INC = .394470E+08

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:56:45 JUN 12, 1995 CP= 56067.060
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 47.66 CRITERION= .8141E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4376
 HT FLOW CONVERGENCE VALUE= .5397E-01 CRITERION= .6529E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 894
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.62 CRITERION= .8079E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4382
 HT FLOW CONVERGENCE VALUE= .5277E-01 CRITERION= .6462E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 895
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 142.9 CRITERION= .1568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.341
 HT FLOW CONVERGENCE VALUE= .1537 CRITERION= .6246E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3824E-01
 HT FLOW CONVERGENCE VALUE= .1566E-02 CRITERION= .6244E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 897
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 142.9 CRITERION= .1559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.356
 HT FLOW CONVERGENCE VALUE= .1489 CRITERION= .6036E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3733E-01
 HT FLOW CONVERGENCE VALUE= .1468E-02 CRITERION= .6035E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 899
 *** TIME = .378691E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 381.2 CRITERION= .3859
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.620
 HT FLOW CONVERGENCE VALUE= .3589 CRITERION= .5466E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9006E-01
 HT FLOW CONVERGENCE VALUE= .3138E-02 CRITERION= .5462E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 901
 *** TIME = .441806E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 381.2 CRITERION= .3851
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.633
 HT FLOW CONVERGENCE VALUE= .3233 CRITERION= .4900E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8189E-01
 HT FLOW CONVERGENCE VALUE= .2542E-02 CRITERION= .4897E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 903
*** TIME = .504922E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 381.4 CRITERION= .3844
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.645
HT FLOW CONVERGENCE VALUE= .2873 CRITERION= .4326E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7343E-01
HT FLOW CONVERGENCE VALUE= .2002E-02 CRITERION= .4323E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 905
*** TIME = .568037E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 381.4 CRITERION= .3838
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -3.657
HT FLOW CONVERGENCE VALUE= .2508 CRITERION= .3760E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6466E-01
HT FLOW CONVERGENCE VALUE= .1518E-02 CRITERION= .3757E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 907
*** TIME = .631152E+10 TIME INC = .631152E+09
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 03:08:40 JUN 12, 1995 CP= 56766.460
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 236.1 CRITERION= .2390
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.556
HT FLOW CONVERGENCE VALUE= .1269 CRITERION= .3578E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3008E-01
HT FLOW CONVERGENCE VALUE= .7927E-03 CRITERION= .3577E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 909
*** TIME = .694267E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 236.1 CRITERION= .2388
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.557
HT FLOW CONVERGENCE VALUE= .1209 CRITERION= .3405E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2878E-01
HT FLOW CONVERGENCE VALUE= .7205E-03 CRITERION= .3404E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 911
*** TIME = .757382E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 236.1 CRITERION= .2386
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.559
HT FLOW CONVERGENCE VALUE= .1150 CRITERION= .3225E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2749E-01
HT FLOW CONVERGENCE VALUE= .6518E-03 CRITERION= .3225E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 913
*** TIME = .820498E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 236.1 CRITERION= .2383
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.561
HT FLOW CONVERGENCE VALUE= .1089 CRITERION= .3052E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2616E-01
HT FLOW CONVERGENCE VALUE= .5856E-03 CRITERION= .3052E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
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*** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 915
 *** TIME = .883613E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 236.2 CRITERION= .2381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.563
 HT FLOW CONVERGENCE VALUE= .1023 CRITERION= .2872E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2485E-01
 HT FLOW CONVERGENCE VALUE= .5245E-03 CRITERION= .2872E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 917
 *** TIME = .946728E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:16:50 JUN 12, 1995 CP= 57244.630
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 135.3 CRITERION= .1384
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8831
 HT FLOW CONVERGENCE VALUE= .5545E-01 CRITERION= .2778E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1377E-01
 HT FLOW CONVERGENCE VALUE= .2836E-03 CRITERION= .2777E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 919
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 135.4 CRITERION= .1382
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8836
 HT FLOW CONVERGENCE VALUE= .5099E-01 CRITERION= .2676E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1338E-01
 HT FLOW CONVERGENCE VALUE= .2652E-03 CRITERION= .2676E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 921
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 135.3 CRITERION= .1380
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8842
 HT FLOW CONVERGENCE VALUE= .4871E-01 CRITERION= .2582E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1298E-01
 HT FLOW CONVERGENCE VALUE= .2494E-03 CRITERION= .2582E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 923
 *** TIME = .113607E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 135.4 CRITERION= .1378
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8848
 HT FLOW CONVERGENCE VALUE= .4642E-01 CRITERION= .2481E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1259E-01
 HT FLOW CONVERGENCE VALUE= .2299E-03 CRITERION= .2480E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 925
 *** TIME = .119919E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 135.3 CRITERION= .1376
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8854
 HT FLOW CONVERGENCE VALUE= .4435E-01 CRITERION= .2386E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1214E-01
 HT FLOW CONVERGENCE VALUE= .2091E-03 CRITERION= .2386E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 927

*** TIME = .126230E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 03:25:00 JUN 12, 1995 CP= 57723.120
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 110.7 CRITERION= .1132
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6601
HT FLOW CONVERGENCE VALUE= .3321E-01 CRITERION= .2318E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9196E-02
HT FLOW CONVERGENCE VALUE= .1585E-03 CRITERION= .2318E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 929
*** TIME = .132542E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1130
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6604
HT FLOW CONVERGENCE VALUE= .3243E-01 CRITERION= .2257E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8978E-02
HT FLOW CONVERGENCE VALUE= .1508E-03 CRITERION= .2257E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 931
*** TIME = .138853E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.7 CRITERION= .1129
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6607
HT FLOW CONVERGENCE VALUE= .3204E-01 CRITERION= .2189E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8817E-02
HT FLOW CONVERGENCE VALUE= .1452E-03 CRITERION= .2189E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 933
*** TIME = .145165E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.6 CRITERION= .1128
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6610
HT FLOW CONVERGENCE VALUE= .3095E-01 CRITERION= .2128E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8603E-02
HT FLOW CONVERGENCE VALUE= .1370E-03 CRITERION= .2128E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 935
*** TIME = .151476E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 110.7 CRITERION= .1127
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6614
HT FLOW CONVERGENCE VALUE= .3013E-01 CRITERION= .2060E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8390E-02
HT FLOW CONVERGENCE VALUE= .1314E-03 CRITERION= .2060E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 937
*** TIME = .157788E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 03:33:11 JUN 12, 1995 CP= 58201.420
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 122.2 CRITERION= .1239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6478
 HT FLOW CONVERGENCE VALUE= .3130E-01 CRITERION= .2013E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8372E-02
 HT FLOW CONVERGENCE VALUE= .1291E-03 CRITERION= .2013E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 939
 *** TIME = .164100E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 122.3 CRITERION= .1239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6481
 HT FLOW CONVERGENCE VALUE= .3051E-01 CRITERION= .1958E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8102E-02
 HT FLOW CONVERGENCE VALUE= .1235E-03 CRITERION= .1958E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 941
 *** TIME = .170411E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 122.2 CRITERION= .1238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6484
 HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .1910E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7759E-02
 HT FLOW CONVERGENCE VALUE= .1165E-03 CRITERION= .1910E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 943
 *** TIME = .176723E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 122.3 CRITERION= .1237
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6487
 HT FLOW CONVERGENCE VALUE= .2897E-01 CRITERION= .1855E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7468E-02
 HT FLOW CONVERGENCE VALUE= .1106E-03 CRITERION= .1855E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 945
 *** TIME = .183034E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 122.2 CRITERION= .1236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6489
 HT FLOW CONVERGENCE VALUE= .2819E-01 CRITERION= .1808E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7277E-02
 HT FLOW CONVERGENCE VALUE= .1048E-03 CRITERION= .1808E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 947
 *** TIME = .189346E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:41:22 JUN 12, 1995 CP= 58679.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 108.8 CRITERION= .1102
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5493
 HT FLOW CONVERGENCE VALUE= .2421E-01 CRITERION= .1765E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6171E-02
 HT FLOW CONVERGENCE VALUE= .8866E-04 CRITERION= .1765E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 949
 *** TIME = .195657E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.7 CRITERION= .1102
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5494
 HT FLOW CONVERGENCE VALUE= .2368E-01 CRITERION= .1730E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6046E-02
 HT FLOW CONVERGENCE VALUE= .8494E-04 CRITERION= .1730E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 951
 *** TIME = .201969E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.8 CRITERION= .1101
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5496
 HT FLOW CONVERGENCE VALUE= .2319E-01 CRITERION= .1688E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5927E-02
 HT FLOW CONVERGENCE VALUE= .8142E-04 CRITERION= .1688E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 953
 *** TIME = .208280E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.7 CRITERION= .1100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5497
 HT FLOW CONVERGENCE VALUE= .2267E-01 CRITERION= .1653E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5801E-02
 HT FLOW CONVERGENCE VALUE= .7784E-04 CRITERION= .1653E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 955
 *** TIME = .214592E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 108.8 CRITERION= .1100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5499
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .1610E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5681E-02
 HT FLOW CONVERGENCE VALUE= .7445E-04 CRITERION= .1610E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 957
 *** TIME = .220903E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:49:36 JUN 12, 1995 CP= 59158.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 95.53 CRITERION= .9689E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4803
 HT FLOW CONVERGENCE VALUE= .1906E-01 CRITERION= .1580E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4881E-02
 HT FLOW CONVERGENCE VALUE= .6282E-04 CRITERION= .1580E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 959
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.58 CRITERION= .9686E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4805
 HT FLOW CONVERGENCE VALUE= .1869E-01 CRITERION= .1544E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4791E-02
 HT FLOW CONVERGENCE VALUE= .6036E-04 CRITERION= .1544E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 961
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.53 CRITERION= .9678E-01

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4806
 HT FLOW CONVERGENCE VALUE= .1828E-01 CRITERION= .1514E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4694E-02
 HT FLOW CONVERGENCE VALUE= .5785E-04 CRITERION= .1514E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 963
 *** TIME = .239838E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.58 CRITERION= .9676E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4808
 HT FLOW CONVERGENCE VALUE= .1791E-01 CRITERION= .1477E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4603E-02
 HT FLOW CONVERGENCE VALUE= .5548E-04 CRITERION= .1477E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 965
 *** TIME = .246149E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.53 CRITERION= .9668E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4808
 HT FLOW CONVERGENCE VALUE= .1751E-01 CRITERION= .1447E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4505E-02
 HT FLOW CONVERGENCE VALUE= .5307E-04 CRITERION= .1447E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 967
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:57:50 JUN 12, 1995 CP= 59638.170
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 85.61 CRITERION= .8681E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4169
 HT FLOW CONVERGENCE VALUE= .1528E-01 CRITERION= .1417E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3898E-02
 HT FLOW CONVERGENCE VALUE= .4563E-04 CRITERION= .1417E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 969
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.57 CRITERION= .8674E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4170
 HT FLOW CONVERGENCE VALUE= .1499E-01 CRITERION= .1394E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3829E-02
 HT FLOW CONVERGENCE VALUE= .4398E-04 CRITERION= .1394E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 971
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.61 CRITERION= .8673E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4171
 HT FLOW CONVERGENCE VALUE= .1473E-01 CRITERION= .1364E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3765E-02
 HT FLOW CONVERGENCE VALUE= .4243E-04 CRITERION= .1364E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 973
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.57 CRITERION= .8666E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4172

HT FLOW CONVERGENCE VALUE= .1444E-01 CRITERION= .1341E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3695E-02
 HT FLOW CONVERGENCE VALUE= .4082E-04 CRITERION= .1341E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 975
 *** TIME = .277707E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 85.61 CRITERION= .8664E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4173
 HT FLOW CONVERGENCE VALUE= .1418E-01 CRITERION= .1310E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3631E-02
 HT FLOW CONVERGENCE VALUE= .3933E-04 CRITERION= .1310E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 977
 *** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:06:03 JUN 12, 1995 CP= 60117.220
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 74.45 CRITERION= .7560E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3581
 HT FLOW CONVERGENCE VALUE= .1208E-01 CRITERION= .1292E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 978
 *** TIME = .290330E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.49 CRITERION= .7559E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3552
 HT FLOW CONVERGENCE VALUE= .1187E-01 CRITERION= .1267E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 979
 *** TIME = .296641E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.45 CRITERION= .7552E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3553
 HT FLOW CONVERGENCE VALUE= .1166E-01 CRITERION= .1248E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 980
 *** TIME = .302953E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.49 CRITERION= .7552E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3554
 HT FLOW CONVERGENCE VALUE= .1148E-01 CRITERION= .1223E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 981
 *** TIME = .309264E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 74.45 CRITERION= .7545E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3555
 HT FLOW CONVERGENCE VALUE= .1127E-01 CRITERION= .1204E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 982
 *** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 60440.400

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21b.db
FOR POSSIBLE RESUME FROM THIS POINT

Create element contour plots of solution results

Sort through solution results for time of max temp.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:11:46 JUN 12, 1995 CP= 60446.460
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= peakclad

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES
VARI TYPE IDENTIFIERS NAME MINIMUM AT TIME MAXIMUM AT TIME
2 NSOL 9 TEMP peakclad 140.2 .3156E+11 240.5 .2525E+09

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 252460832.

***** ROUTINE COMPLETED ***** CP = 60446.770

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:11:48 JUN 12, 1995 CP= 60446.810
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****

Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4459 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0

USE DATA SET FOR TIME OR FREQUENCY= .25246E+09

SET COMMAND GOT LOAD STEP= 20 SUBSTEP= 40 CUMULATIVE ITERATION= 511
TIME/FREQUENCY= .25246E+09

TITLE=
21 PWR UCF/WP at Time of Peak Temp. (8.000001 years)

/SHOW SWITCH PLOTS TO FILE solupk.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 AUTOMATIC CONTOURS

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solupk.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at Time of Peak Temp. (8.000001 years)

*** WARNING *** CP= 60482.900 TIME= 04:12:31
The selected element set contains mixed materials.
This could invalidate error estimation.
Create temperature contour plots at 10, 50, and 100 yrs

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+09

SET COMMAND GOT LOAD STEP= 22 SUBSTEP= 40 CUMULATIVE ITERATION= 591
TIME/FREQUENCY= .31558E+09

TITLE=
21 PWR UCF/WP at 10 years

/SHOW SWITCH PLOTS TO FILE solu10.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 149.97 BY .71312 TO 240.53

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 10 years

*** WARNING *** CP= 60528.690 TIME= 04:13:20
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+10

SET COMMAND GOT LOAD STEP= 26 SUBSTEP= 40 CUMULATIVE ITERATION= 751
TIME/FREQUENCY= .15779E+10

TITLE=
21 PWR UCF/WP at 50 years

/SHOW SWITCH PLOTS TO FILE solu50.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 149.97 BY .71312 TO 240.53

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 50 years

*** WARNING *** CP= 60575.280 TIME= 04:14:07
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+10

SET COMMAND GOT LOAD STEP= 31 SUBSTEP= 7 CUMULATIVE ITERATION= 893
TIME/FREQUENCY= .31558E+10

TITLE=
21 PWR UCF/WP at 100 years

/SHOW SWITCH PLOTS TO FILE solu100.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 149.97 BY .71312 TO 240.53

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 100 years

*** WARNING *** CP= 60620.870 TIME= 04:14:53
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 60630.040

Print time/temperature output at specific locations
Save profile from center to edge

Variable Legend: A01i000

c = center of assembly
h = halfway between center and tube
s = inside structural stainless tube layer
t = stainless tube cladding
g = tube guide
i = inner barrier of DC
o = outer barrier of DC
= ID number of assembly (01 is center)
i = side of assembly toward center of WP
o = side of assembly toward edge of WP
000 = profile center down
045 = profile 45 deg down
090 = profile center side
135 = profile 45 deg up
180 = profile center up

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 04:15:02 JUN 12, 1995 CP= 60630.050
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 30

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2	IS AT NODE	9	ITEM= TEMP COMP=	NAME= c01i000
VARIABLE 3	IS AT NODE	6	ITEM= TEMP COMP=	NAME= h01o000
VARIABLE 4	IS AT NODE	1	ITEM= TEMP COMP=	NAME= s01o000
VARIABLE 5	IS AT NODE	346	ITEM= TEMP COMP=	NAME= t01o000
VARIABLE 6	IS AT NODE	3820	ITEM= TEMP COMP=	NAME= ts1o000
VARIABLE 7	IS AT NODE	858	ITEM= TEMP COMP=	NAME= t06i000
VARIABLE 8	IS AT NODE	695	ITEM= TEMP COMP=	NAME= s06i000
VARIABLE 9	IS AT NODE	706	ITEM= TEMP COMP=	NAME= h06i000
VARIABLE 10	IS AT NODE	702	ITEM= TEMP COMP=	NAME= c06i000
VARIABLE 11	IS AT NODE	699	ITEM= TEMP COMP=	NAME= h06o000
VARIABLE 12	IS AT NODE	694	ITEM= TEMP COMP=	NAME= s06o000
VARIABLE 13	IS AT NODE	814	ITEM= TEMP COMP=	NAME= t13i000
VARIABLE 14	IS AT NODE	1051	ITEM= TEMP COMP=	NAME= s13i000
VARIABLE 15	IS AT NODE	1062	ITEM= TEMP COMP=	NAME= h13i000
VARIABLE 16	IS AT NODE	1058	ITEM= TEMP COMP=	NAME= c13i000
VARIABLE 17	IS AT NODE	1055	ITEM= TEMP COMP=	NAME= h13o000
VARIABLE 18	IS AT NODE	1050	ITEM= TEMP COMP=	NAME= s13o000
VARIABLE 19	IS AT NODE	1170	ITEM= TEMP COMP=	NAME= t13o000
VARIABLE 20	IS AT NODE	4304	ITEM= TEMP COMP=	NAME= i13i000
VARIABLE 21	IS AT NODE	4240	ITEM= TEMP COMP=	NAME= i13o000
VARIABLE 22	IS AT NODE	4487	ITEM= TEMP COMP=	NAME= o13o000

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i000	140.2	.3156E+11	240.5	.2525E+09
3 NSOL	6 TEMP	h01o000	140.0	.3156E+11	237.5	.2525E+09
4 NSOL	1 TEMP	s01o000	132.0	.1000E-05	221.4	.2525E+09
5 NSOL	346 TEMP	t01o000	131.9	.1000E-05	221.3	.2525E+09
6 NSOL	3820 TEMP	ts1o000	131.9	.1000E-05	221.3	.2525E+09
7 NSOL	858 TEMP	t06i000	131.9	.1000E-05	221.3	.2525E+09

8	NSOL	695	TEMP	s06i000	132.0	.1000E-05	221.3	.2525E+09
9	NSOL	706	TEMP	h06i000	139.8	.3156E+11	233.7	.2525E+09
10	NSOL	702	TEMP	c06i000	140.1	.3156E+11	238.5	.2525E+09
11	NSOL	699	TEMP	h06o000	140.0	.3156E+11	235.7	.2525E+09
12	NSOL	694	TEMP	s06o000	135.4	.1000E-05	222.9	.2525E+09
13	NSOL	814	TEMP	t13i000	135.3	.1000E-05	222.9	.2525E+09
14	NSOL	1051	TEMP	s13i000	135.3	.1000E-05	222.9	.2525E+09
15	NSOL	1062	TEMP	h13i000	139.4	.3156E+11	226.1	.2525E+09
16	NSOL	1058	TEMP	c13i000	139.3	.3156E+11	223.1	.2525E+09
17	NSOL	1055	TEMP	h13o000	129.7	.1000E-05	214.8	.3156E+09
18	NSOL	1050	TEMP	s13o000	93.09	.1000E-05	191.1	.6312E+09
19	NSOL	1170	TEMP	t13o000	92.95	.1000E-05	191.0	.6312E+09
20	NSOL	4304	TEMP	i13i000	29.66	.1000E-05	167.7	.1262E+10
21	NSOL	4240	TEMP	i13o000	28.98	.1000E-05	167.3	.1262E+10
22	NSOL	4487	TEMP	o13o000	26.14	.1000E-05	166.1	.1262E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:05 JUN 12, 1995 CP= 60633.320
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i000	6 TEMP h01o000	1 TEMP s01o000	346 TEMP t01o000	3820 TEMP ts1o000	858 TEMP t06i000
.10000E-05	163.925	158.943	131.986	131.892	131.892	131.899
.20000E-05	197.318	192.818	168.724	168.632	168.632	168.639
31.558	197.317	192.818	168.724	168.632	168.632	168.640
.31558E+07	218.731	214.636	192.479	192.390	192.390	192.397
.63116E+07	223.110	219.080	197.295	197.207	197.207	197.214
.94673E+07	225.594	221.612	200.099	200.012	200.012	200.018
.12623E+08	227.312	223.371	202.090	202.004	202.003	202.010
.15779E+08	228.624	224.717	203.635	203.549	203.548	203.555
.18935E+08	229.673	225.796	204.885	204.799	204.799	204.805
.22090E+08	230.541	226.691	205.934	205.849	205.849	205.855
.25246E+08	231.282	227.457	206.842	206.758	206.757	206.764
.28402E+08	231.915	228.115	207.634	207.550	207.549	207.556
.31558E+08	232.473	228.695	208.341	208.257	208.257	208.263
.63115E+08	236.115	232.511	213.138	213.057	213.057	213.063
.94673E+08	238.043	234.576	215.963	215.885	215.885	215.891
.12623E+09	239.196	235.839	217.842	217.766	217.766	217.772
.15779E+09	240.098	236.830	219.329	219.255	219.255	219.261
.18935E+09	240.128	236.957	219.985	219.913	219.913	219.919
.22090E+09	240.375	237.280	220.728	220.658	220.658	220.664
.25246E+09	240.533	237.510	221.351	221.283	221.283	221.288
.28402E+09	240.006	237.043	221.220	221.154	221.153	221.158
.31558E+09	239.764	236.851	221.302	221.237	221.236	221.242
.63115E+09	231.885	229.430	216.369	216.315	216.315	216.319
.94673E+09	224.343	222.233	211.039	210.993	210.993	210.996
.12623E+10	216.962	215.116	205.349	205.310	205.310	205.313
.15779E+10	209.966	208.342	199.762	199.728	199.728	199.731
.18935E+10	203.776	202.330	194.704	194.675	194.674	194.677
.22090E+10	198.421	197.123	190.295	190.268	190.268	190.270
.25246E+10	193.256	192.081	185.904	185.881	185.880	185.882
.28402E+10	189.091	188.016	182.367	182.346	182.346	182.347
.31558E+10	185.420	184.435	179.257	179.237	179.237	179.239
.63115E+10	167.671	167.080	163.980	163.969	163.969	163.970
.94673E+10	160.008	159.545	157.119	157.110	157.110	157.111
.12623E+11	155.649	155.260	153.220	153.213	153.213	153.214
.15779E+11	152.388	152.048	150.267	150.261	150.260	150.261
.18935E+11	149.185	148.884	147.309	147.303	147.303	147.304
.22090E+11	146.466	146.195	144.778	144.773	144.773	144.774
.25246E+11	144.086	143.841	142.563	142.558	142.558	142.559
.28402E+11	142.018	141.795	140.628	140.624	140.624	140.624
.31558E+11	140.239	140.034	138.960	138.956	138.956	138.956

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:05 JUN 12, 1995 CP= 60633.330
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	695 TEMP s06i000	706 TEMP h06i000	702 TEMP c06i000	699 TEMP h06o000	694 TEMP s06o000	814 TEMP t13i000
.10000E-05	131.984	152.953	161.087	156.784	135.386	135.325
.20000E-05	168.722	187.259	194.427	190.471	171.374	171.314
31.558	168.722	187.258	194.426	190.471	171.374	171.314
.31558E+07	192.476	209.596	216.229	212.594	195.084	195.025
.63116E+07	197.293	214.103	220.610	217.019	199.795	199.736
.94673E+07	200.097	216.684	223.102	219.547	202.534	202.476
.12623E+08	202.088	218.484	224.826	221.302	204.471	204.414
.15779E+08	203.632	219.867	226.145	222.649	205.973	205.916
.18935E+08	204.882	220.978	227.201	223.728	207.190	207.133
.22090E+08	205.932	221.902	228.077	224.626	208.207	208.150
.25246E+08	206.840	222.696	228.826	225.395	209.088	209.032
.28402E+08	207.631	223.379	229.468	226.056	209.854	209.798
.31558E+08	208.339	223.985	230.033	226.640	210.538	210.482
.63115E+08	213.135	228.003	233.751	230.503	215.171	215.117
.94673E+08	215.961	230.228	235.745	232.612	217.877	217.825
.12623E+09	217.839	231.624	236.956	233.918	219.666	219.615
.15779E+09	219.326	232.722	237.904	234.944	221.081	221.032
.18935E+09	219.982	232.969	237.996	235.121	221.676	221.628
.22090E+09	220.726	233.387	238.290	235.482	222.367	222.321
.25246E+09	221.349	233.706	238.493	235.749	222.945	222.899
.28402E+09	221.218	233.316	238.006	235.317	222.777	222.733
.31558E+09	221.300	233.186	237.795	235.151	222.828	222.784
.63115E+09	216.367	226.360	230.256	228.036	217.685	217.648
.94673E+09	211.037	219.612	222.974	221.075	212.203	212.172
.12623E+10	205.348	212.840	215.790	214.137	206.397	206.370
.15779E+10	199.761	206.353	208.960	207.512	200.711	200.688
.18935E+10	194.704	200.569	202.899	201.614	195.571	195.551
.22090E+10	190.294	195.552	197.649	196.501	191.091	191.073
.25246E+10	185.904	190.666	192.571	191.534	186.641	186.625
.28402E+10	182.367	186.727	188.475	187.529	183.054	183.040
.31558E+10	179.256	183.257	184.864	183.999	179.898	179.885
.63115E+10	163.980	166.387	167.364	166.851	164.393	164.386
.94673E+10	157.119	159.007	159.776	159.376	157.452	157.446
.12623E+11	153.220	154.810	155.459	155.123	153.504	153.500
.15779E+11	150.267	151.656	152.225	151.932	150.518	150.514
.18935E+11	147.309	148.538	149.041	148.783	147.531	147.528
.22090E+11	144.778	145.884	146.338	146.106	144.980	144.977
.25246E+11	142.563	143.562	143.971	143.762	142.746	142.743
.28402E+11	140.628	141.540	141.915	141.724	140.796	140.794
.31558E+11	138.960	139.800	140.145	139.969	139.116	139.114

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:05 JUN 12, 1995 CP= 60633.340
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1051 TEMP s13i000	1062 TEMP h13i000	1058 TEMP c13i000	1055 TEMP h13o000	1050 TEMP s13o000	1170 TEMP t13o000
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.10000E-05	135.336	143.330	141.098	129.745	93.0917	92.9475
.20000E-05	171.321	177.556	174.568	163.492	128.890	128.739
31.558	171.321	177.556	174.568	163.492	128.890	128.739
.31558E+07	195.031	200.279	196.954	186.223	153.377	153.224
.63116E+07	199.741	204.791	201.392	190.710	158.178	158.024
.94673E+07	202.480	207.405	203.977	193.355	161.088	160.934
.12623E+08	204.418	209.240	205.792	195.231	163.207	163.054
.15779E+08	205.920	210.658	207.198	196.694	164.889	164.736
.18935E+08	207.137	211.800	208.334	197.884	166.278	166.126
.22090E+08	208.154	212.760	209.290	198.891	167.469	167.316
.25246E+08	209.036	213.587	210.115	199.765	168.517	168.365
.28402E+08	209.802	214.304	210.833	200.530	169.450	169.299
.31558E+08	210.486	214.943	211.473	201.216	170.298	170.147
.63115E+08	215.120	219.250	215.817	205.939	176.324	176.177
.94673E+08	217.828	221.725	218.344	208.784	180.236	180.094
.12623E+09	219.618	223.338	220.012	210.720	183.063	182.924
.15779E+09	221.034	224.615	221.336	212.263	185.331	185.195
.18935E+09	221.630	225.081	221.874	213.054	186.933	186.801
.22090E+09	222.322	225.667	222.515	213.893	188.409	188.279
.25246E+09	222.901	226.149	223.050	214.615	189.732	189.605
.28402E+09	222.734	225.910	222.869	214.604	190.256	190.131
.31558E+09	222.785	225.899	222.902	214.774	190.857	190.735
.63115E+09	217.650	220.299	217.808	211.009	191.142	191.041
.94673E+09	212.174	214.487	212.392	206.603	189.767	189.682
.12623E+10	206.372	208.435	206.650	201.642	187.121	187.049
.15779E+10	200.690	202.542	201.015	196.655	184.047	183.985
.18935E+10	195.552	197.229	195.906	192.068	180.973	180.918
.22090E+10	191.075	192.601	191.445	188.033	178.171	178.123
.25246E+10	186.626	188.031	187.010	183.947	175.088	175.046
.28402E+10	183.041	184.344	183.429	180.645	172.588	172.549
.31558E+10	179.886	181.095	180.273	177.735	170.386	170.351
.63115E+10	164.387	165.162	164.722	163.248	158.961	158.942
.94673E+10	157.447	158.073	157.748	156.610	153.292	153.277
.12623E+11	153.500	154.036	153.772	152.823	150.051	150.039
.15779E+11	150.514	150.988	150.763	149.939	147.530	147.519
.18935E+11	147.528	147.951	147.757	147.032	144.913	144.903
.22090E+11	144.978	145.361	145.190	144.541	142.641	142.633
.25246E+11	142.744	143.092	142.940	142.357	140.648	140.641
.28402E+11	140.794	141.114	140.978	140.447	138.891	138.884
.31558E+11	139.114	139.410	139.286	138.800	137.371	137.365

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:05 JUN 12, 1995 CP= 60633.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4304 TEMP	4240 TEMP	4487 TEMP
	i13i000	i13o000	o13o000
.10000E-05	29.6634	28.9765	26.1377
.20000E-05	72.5859	71.8051	68.9920
31.558	72.5859	71.8051	68.9920
.31558E+07	102.614	101.794	99.1974
.63116E+07	108.415	107.590	104.997
.94673E+07	112.037	111.211	108.626
.12623E+08	114.759	113.933	111.356
.15779E+08	116.964	116.138	113.571
.18935E+08	118.812	117.987	115.429
.22090E+08	120.426	119.603	117.054
.25246E+08	121.863	121.042	118.502
.28402E+08	123.165	122.346	119.816
.31558E+08	124.361	123.545	121.025
.63115E+08	133.070	132.277	129.838
.94673E+08	139.044	138.272	135.905
.12623E+09	143.520	142.768	140.464

.15779E+09	147.108	146.371	144.119
.18935E+09	150.104	149.387	147.198
.22090E+09	152.676	151.975	149.835
.25246E+09	155.018	154.331	152.237
.28402E+09	156.399	155.727	153.676
.31558E+09	157.698	157.038	155.020
.63115E+09	164.108	163.563	161.895
.94673E+09	167.119	166.662	165.260
.12623E+10	167.704	167.314	166.116
.15779E+10	167.239	166.905	165.877
.18935E+10	166.203	165.913	165.017
.22090E+10	165.056	164.801	164.013
.25246E+10	163.301	163.074	162.373
.28402E+10	161.863	161.658	161.027
.31558E+10	160.602	160.417	159.845
.63115E+10	153.242	153.138	152.818
.94673E+10	148.851	148.773	148.530
.12623E+11	146.335	146.270	146.070
.15779E+11	144.294	144.238	144.065
.18935E+11	142.056	142.007	141.856
.22090E+11	140.074	140.031	139.896
.25246E+11	138.334	138.295	138.174
.28402E+11	136.778	136.743	136.634
.31558E+11	135.428	135.396	135.296

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i045

*** WARNING *** CP= 60633.510 TIME= 04:15:05
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 84 ITEM= TEMP COMP= NAME= h01o045

VARIABLE 4 IS AT NODE 23 ITEM= TEMP COMP= NAME= s01o045

VARIABLE 5 IS AT NODE 348 ITEM= TEMP COMP= NAME= t01o045

VARIABLE 6 IS AT NODE 3831 ITEM= TEMP COMP= NAME= ts1o045

VARIABLE 7 IS AT NODE 2465 ITEM= TEMP COMP= NAME= t08i045

VARIABLE 8 IS AT NODE 2240 ITEM= TEMP COMP= NAME= s08i045

VARIABLE 9 IS AT NODE 2331 ITEM= TEMP COMP= NAME= h08i045

VARIABLE 10 IS AT NODE 2379 ITEM= TEMP COMP= NAME= c08i045

VARIABLE 11 IS AT NODE 2427 ITEM= TEMP COMP= NAME= h08o045

VARIABLE 12 IS AT NODE 2268 ITEM= TEMP COMP= NAME= s08o045

VARIABLE 13 IS AT NODE 2494 ITEM= TEMP COMP= NAME= g08i045

VARIABLE 14 IS AT NODE 3689 ITEM= TEMP COMP= NAME= g08o045

VARIABLE 15 IS AT NODE 4332 ITEM= TEMP COMP= NAME= i08i045

VARIABLE 16 IS AT NODE 4272 ITEM= TEMP COMP= NAME= i08o045

VARIABLE 17 IS AT NODE 4521 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 11 and 12

VARIABLE 18 IS AT NODE 3390 ITEM= TEMP COMP= NAME= c11i045

VARIABLE 19 IS AT NODE 2716 ITEM= TEMP COMP= NAME= c12i045

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i045	140.2	.3156E+11	240.5	.2525E+09
3 NSOL	84 TEMP	h01o045	139.6	.3156E+11	231.6	.2525E+09
4 NSOL	23 TEMP	s01o045	130.6	.1000E-05	220.2	.2525E+09
5 NSOL	348 TEMP	t01o045	129.5	.1000E-05	219.5	.3156E+09
6 NSOL	3831 TEMP	ts1o045	129.4	.1000E-05	219.5	.3156E+09
7 NSOL	2465 TEMP	t08i045	129.4	.1000E-05	219.5	.3156E+09
8 NSOL	2240 TEMP	s08i045	128.2	.1000E-05	218.7	.3156E+09
9 NSOL	2331 TEMP	h08i045	139.4	.3156E+11	227.9	.2525E+09
10 NSOL	2379 TEMP	c08i045	140.0	.3156E+11	235.7	.2525E+09
11 NSOL	2427 TEMP	h08o045	139.2	.3156E+11	222.9	.2525E+09
12 NSOL	2268 TEMP	s08o045	110.6	.1000E-05	201.3	.3156E+09
13 NSOL	2494 TEMP	g08i045	108.8	.1000E-05	200.0	.3156E+09
14 NSOL	3689 TEMP	g08o045	105.5	.1000E-05	197.5	.3156E+09
15 NSOL	4332 TEMP	i08i045	28.27	.1000E-05	166.8	.1262E+10
16 NSOL	4272 TEMP	i08o045	27.44	.1000E-05	166.3	.1262E+10
17 NSOL	4521 TEMP	o08o045	26.14	.1000E-05	165.5	.1262E+10
18 NSOL	3390 TEMP	c11i045	129.9	.1000E-05	213.1	.3156E+09
19 NSOL	2716 TEMP	c12i045	130.1	.1000E-05	213.8	.3156E+09
20 NSOL	4304 TEMP	i13i000	29.66	.1000E-05	167.7	.1262E+10
21 NSOL	4240 TEMP	i13o000	28.98	.1000E-05	167.3	.1262E+10
22 NSOL	4487 TEMP	o13o000	26.14	.1000E-05	166.1	.1262E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:08 JUN 12, 1995 CP= 60636.170
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i045	84 TEMP h01o045	23 TEMP s01o045	348 TEMP t01o045	3831 TEMP ts1o045	2465 TEMP t08i045
.10000E-05	163.925	149.105	130.562	129.468	129.441	129.419
.20000E-05	197.318	184.013	167.327	166.265	166.238	166.217
31.558	197.317	184.013	167.327	166.265	166.238	166.217
.31558E+07	218.731	206.511	191.064	190.067	190.043	190.022
.63116E+07	223.110	211.090	195.886	194.896	194.871	194.851
.94673E+07	225.594	213.720	198.698	197.714	197.689	197.670
.12623E+08	227.312	215.563	200.697	199.719	199.694	199.674
.15779E+08	228.624	216.981	202.248	201.276	201.251	201.232
.18935E+08	229.673	218.121	203.505	202.537	202.513	202.493
.22090E+08	230.541	219.072	204.561	203.599	203.575	203.555
.25246E+08	231.282	219.889	205.475	204.517	204.493	204.474
.28402E+08	231.915	220.595	206.273	205.320	205.296	205.277
.31558E+08	232.473	221.220	206.986	206.037	206.014	205.994
.63115E+08	236.115	225.390	211.833	210.922	210.899	210.881
.94673E+08	238.043	227.729	214.701	213.821	213.799	213.781
.12623E+09	239.196	229.215	216.616	215.763	215.741	215.724
.15779E+09	240.098	230.386	218.134	217.301	217.280	217.263
.18935E+09	240.128	230.704	218.824	218.016	217.996	217.980
.22090E+09	240.375	231.180	219.595	218.806	218.786	218.770
.25246E+09	240.533	231.552	220.243	219.473	219.454	219.438
.28402E+09	240.006	231.207	220.136	219.383	219.364	219.348
.31558E+09	239.764	231.115	220.238	219.497	219.478	219.463
.63115E+09	231.885	224.599	215.488	214.876	214.861	214.848
.94673E+09	224.343	218.084	210.296	209.780	209.767	209.756
.12623E+10	216.962	211.490	204.712	204.269	204.258	204.249
.15779E+10	209.966	205.151	199.212	198.829	198.820	198.812
.18935E+10	203.776	199.488	194.222	193.887	193.879	193.872
.22090E+10	198.421	194.575	189.868	189.571	189.564	189.558
.25246E+10	193.256	189.774	185.522	185.257	185.250	185.245

.28402E+10	189.091	185.905	182.021	181.780	181.774	181.770
.31558E+10	185.420	182.498	178.941	178.723	178.718	178.713
.63115E+10	167.671	165.916	163.799	163.675	163.672	163.669
.94673E+10	160.008	158.632	156.980	156.884	156.882	156.880
.12623E+11	155.649	154.492	153.105	153.026	153.024	153.022
.15779E+11	152.388	151.377	150.166	150.098	150.096	150.095
.18935E+11	149.185	148.290	147.221	147.161	147.159	147.158
.22090E+11	146.466	145.661	144.700	144.646	144.645	144.643
.25246E+11	144.086	143.359	142.492	142.444	142.443	142.442
.28402E+11	142.018	141.355	140.563	140.519	140.518	140.518
.31558E+11	140.239	139.629	138.901	138.861	138.860	138.859

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:08 JUN 12, 1995 CP= 60636.190
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2240 TEMP s08i045	2331 TEMP h08i045	2379 TEMP c08i045	2427 TEMP h08o045	2268 TEMP s08o045	2494 TEMP g08i045
.10000E-05	128.152	144.291	159.434	142.309	110.571	108.821
.20000E-05	165.020	179.194	192.090	175.465	145.282	143.566
31.558	165.020	179.194	192.089	175.465	145.282	143.566
.31558E+07	188.916	201.928	213.431	197.272	168.235	166.544
.63116E+07	193.756	206.520	217.731	201.656	172.839	171.152
.94673E+07	196.584	209.172	220.188	204.208	175.600	173.920
.12623E+08	198.597	211.035	221.887	205.999	177.589	175.918
.15779E+08	200.162	212.471	223.188	207.384	179.154	177.491
.18935E+08	201.431	213.628	224.232	208.503	180.439	178.783
.22090E+08	202.499	214.597	225.099	209.442	181.531	179.884
.25246E+08	203.424	215.430	225.842	210.252	182.489	180.849
.28402E+08	204.233	216.154	226.479	210.957	183.335	181.702
.31558E+08	204.957	216.796	227.041	211.584	184.099	182.473
.63115E+08	209.889	221.113	230.758	215.836	189.461	187.896
.94673E+08	212.827	223.579	232.778	218.307	192.847	191.333
.12623E+09	214.800	225.175	234.022	219.937	195.243	193.773
.15779E+09	216.364	226.435	235.002	221.234	197.165	195.731
.18935E+09	217.108	226.863	235.147	221.745	198.380	196.987
.22090E+09	217.920	227.422	235.480	222.366	199.553	198.193
.25246E+09	218.609	227.876	235.723	222.883	200.592	199.263
.28402E+09	218.536	227.605	235.283	222.693	200.869	199.568
.31558E+09	218.666	227.571	235.107	222.719	201.272	199.994
.63115E+09	214.186	221.651	227.989	217.574	199.701	198.641
.94673E+09	209.196	215.589	221.046	212.144	196.961	196.065
.12623E+10	203.766	209.344	214.136	206.410	193.290	192.521
.15779E+10	198.393	203.296	207.535	200.786	189.377	188.711
.18935E+10	193.503	197.860	201.655	195.691	185.643	185.059
.22090E+10	189.230	193.135	196.554	191.243	182.307	181.789
.25246E+10	184.951	188.487	191.600	186.823	178.794	178.330
.28402E+10	181.502	184.739	187.601	183.254	175.950	175.529
.31558E+10	178.470	181.440	184.075	180.107	173.445	173.063
.63115E+10	163.529	165.315	166.931	164.610	160.729	160.511
.94673E+10	156.772	158.174	159.452	157.657	154.656	154.489
.12623E+11	152.932	154.112	155.193	153.694	151.189	151.050
.15779E+11	150.017	151.049	151.997	150.694	148.518	148.397
.18935E+11	147.090	148.002	148.844	147.697	145.783	145.677
.22090E+11	144.582	145.404	146.164	145.136	143.421	143.326
.25246E+11	142.387	143.129	143.817	142.893	141.350	141.265
.28402E+11	140.467	141.145	141.776	140.935	139.530	139.453
.31558E+11	138.813	139.437	140.018	139.246	137.957	137.886

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:08 JUN 12, 1995 CP= 60636.200

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3689 TEMP g08o045	4332 TEMP i08i045	4272 TEMP i08o045	4521 TEMP o08o045	3390 TEMP c11i045	2716 TEMP c12i045
.10000E-05	105.459	28.2671	27.4446	26.1377	129.931	130.100
.20000E-05	140.253	71.3992	70.4248	68.9901	163.043	163.245
31.558	140.254	71.3992	70.4248	68.9901	163.042	163.244
.31558E+07	163.297	100.463	99.4086	97.8978	184.747	185.499
.63116E+07	167.917	106.273	105.210	103.686	189.150	189.913
.94673E+07	170.701	109.914	108.849	107.319	191.756	192.520
.12623E+08	172.714	112.655	111.589	110.058	193.604	194.366
.15779E+08	174.302	114.873	113.808	112.277	195.044	195.805
.18935E+08	175.610	116.736	115.673	114.142	196.216	196.976
.22090E+08	176.725	118.364	117.302	115.773	197.209	197.968
.25246E+08	177.703	119.814	118.754	117.227	198.073	198.830
.28402E+08	178.570	121.129	120.071	118.547	198.829	199.584
.31558E+08	179.355	122.338	121.283	119.761	199.508	200.260
.63115E+08	184.889	131.133	130.107	128.616	204.190	204.927
.94673E+08	188.423	137.185	136.186	134.727	207.026	207.745
.12623E+09	190.945	141.726	140.752	139.323	208.969	209.671
.15779E+09	192.970	145.367	144.413	143.010	210.523	211.210
.18935E+09	194.305	148.414	147.487	146.117	211.333	212.006
.22090E+09	195.573	151.029	150.121	148.778	212.187	212.848
.25246E+09	196.701	153.407	152.518	151.200	212.924	213.575
.28402E+09	197.061	154.831	153.961	152.668	212.941	213.577
.31558E+09	197.530	156.165	155.310	154.037	213.132	213.756
.63115E+09	196.600	162.843	162.138	161.080	209.589	210.118
.94673E+09	194.342	166.051	165.460	164.568	205.371	205.827
.12623E+10	191.042	166.788	166.284	165.523	200.571	200.967
.15779E+10	187.433	166.440	166.008	165.355	195.719	196.068
.18935E+10	183.940	165.494	165.118	164.550	191.241	191.553
.22090E+10	180.798	164.417	164.087	163.588	187.294	187.578
.25246E+10	177.444	162.724	162.431	161.988	183.286	183.543
.28402E+10	174.726	161.332	161.067	160.668	180.042	180.280
.31558E+10	172.333	160.111	159.871	159.510	177.182	177.404
.63115E+10	160.092	152.943	152.809	152.608	162.928	163.065
.94673E+10	154.167	148.616	148.514	148.362	156.365	156.474
.12623E+11	150.782	146.137	146.053	145.928	152.620	152.712
.15779E+11	148.165	144.120	144.048	143.940	149.763	149.844
.18935E+11	145.474	141.904	141.841	141.747	146.880	146.950
.22090E+11	143.145	139.937	139.881	139.798	144.405	144.469
.25246E+11	141.102	138.210	138.160	138.086	142.236	142.294
.28402E+11	139.304	136.665	136.620	136.553	140.338	140.390
.31558E+11	137.750	135.323	135.282	135.220	138.699	138.747

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 60636.360 TIME= 04:15:09
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 88 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 30 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 369 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 6 IS AT NODE 3936 ITEM= TEMP COMP= NAME= ts1o090

VARIABLE 7 IS AT NODE 412 ITEM= TEMP COMP= NAME= t02i090
 VARIABLE 8 IS AT NODE 129 ITEM= TEMP COMP= NAME= s02i090
 VARIABLE 9 IS AT NODE 209 ITEM= TEMP COMP= NAME= h02i090
 VARIABLE 10 IS AT NODE 261 ITEM= TEMP COMP= NAME= c02i090
 VARIABLE 11 IS AT NODE 313 ITEM= TEMP COMP= NAME= h02o090
 VARIABLE 12 IS AT NODE 157 ITEM= TEMP COMP= NAME= s02o090
 VARIABLE 13 IS AT NODE 469 ITEM= TEMP COMP= NAME= t02i090
 VARIABLE 14 IS AT NODE 1236 ITEM= TEMP COMP= NAME= s04i090
 VARIABLE 15 IS AT NODE 1316 ITEM= TEMP COMP= NAME= h04i090
 VARIABLE 16 IS AT NODE 1368 ITEM= TEMP COMP= NAME= c04i090
 VARIABLE 17 IS AT NODE 1407 ITEM= TEMP COMP= NAME= h04o090
 VARIABLE 18 IS AT NODE 1264 ITEM= TEMP COMP= NAME= s04o090
 VARIABLE 19 IS AT NODE 1518 ITEM= TEMP COMP= NAME= t04o090
 VARIABLE 20 IS AT NODE 4057 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 21 IS AT NODE 3993 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 22 IS AT NODE 4484 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i090	140.2	.3156E+11	240.5	.2525E+09
3 NSOL	88 TEMP	h01o090	139.9	.3156E+11	235.4	.2525E+09
4 NSOL	30 TEMP	s01o090	134.3	.1000E-05	222.8	.2525E+09
5 NSOL	369 TEMP	t01o090	134.1	.1000E-05	222.7	.2525E+09
6 NSOL	3936 TEMP	ts1o090	134.1	.1000E-05	222.7	.2525E+09
7 NSOL	412 TEMP	t02i090	134.1	.1000E-05	222.7	.2525E+09
8 NSOL	129 TEMP	s02i090	134.3	.1000E-05	222.8	.2525E+09
9 NSOL	209 TEMP	h02i090	139.8	.3156E+11	234.2	.2525E+09
10 NSOL	261 TEMP	c02i090	140.1	.3156E+11	238.3	.2525E+09
11 NSOL	313 TEMP	h02o090	139.8	.3156E+11	233.0	.2525E+09
12 NSOL	157 TEMP	s02o090	135.1	.1000E-05	222.0	.2525E+09
13 NSOL	469 TEMP	t02i090	135.1	.1000E-05	222.0	.2525E+09
14 NSOL	1236 TEMP	s04i090	135.1	.1000E-05	222.0	.2525E+09
15 NSOL	1316 TEMP	h04i090	139.3	.3156E+11	224.8	.2525E+09
16 NSOL	1368 TEMP	c04i090	139.1	.3156E+11	221.0	.2525E+09
17 NSOL	1407 TEMP	h04o090	127.5	.1000E-05	211.9	.3156E+09
18 NSOL	1264 TEMP	s04o090	87.37	.1000E-05	186.2	.6312E+09
19 NSOL	1518 TEMP	t04o090	87.19	.1000E-05	186.1	.6312E+09
20 NSOL	4057 TEMP	i04i090	30.11	.1000E-05	166.9	.1262E+10
21 NSOL	3993 TEMP	i04o090	29.17	.1000E-05	166.4	.1262E+10
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	164.9	.1262E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:12 JUN 12, 1995 CP= 60639.480
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i090	88 TEMP h01o090	30 TEMP s01o090	369 TEMP t01o090	3936 TEMP ts1o090	412 TEMP t02i090
.10000E-05	163.925	155.517	134.264	134.130	134.125	134.129
.20000E-05	197.318	189.785	170.923	170.794	170.789	170.793
31.558	197.317	189.785	170.923	170.794	170.789	170.793
.31558E+07	218.731	211.787	194.408	194.283	194.279	194.283
.63116E+07	223.110	216.279	199.207	199.084	199.079	199.083
.94673E+07	225.594	218.848	201.998	201.876	201.871	201.875
.12623E+08	227.312	220.638	203.977	203.856	203.851	203.855
.15779E+08	228.624	222.011	205.510	205.389	205.385	205.389
.18935E+08	229.673	223.113	206.751	206.631	206.626	206.630
.22090E+08	230.541	224.028	207.789	207.670	207.665	207.669
.25246E+08	231.282	224.812	208.689	208.570	208.565	208.569
.28402E+08	231.915	225.487	209.470	209.352	209.347	209.351
.31558E+08	232.473	226.083	210.169	210.051	210.046	210.051
.63115E+08	236.115	230.025	214.890	214.777	214.773	214.777
.94673E+08	238.043	232.187	217.654	217.545	217.541	217.545
.12623E+09	239.196	233.529	219.481	219.376	219.372	219.375
.15779E+09	240.098	234.583	220.927	220.824	220.820	220.824
.18935E+09	240.128	234.776	221.534	221.434	221.430	221.434
.22090E+09	240.375	235.152	222.240	222.142	222.138	222.142
.25246E+09	240.533	235.431	222.827	222.732	222.728	222.731
.28402E+09	240.006	235.007	222.664	222.572	222.568	222.571
.31558E+09	239.764	234.850	222.722	222.631	222.627	222.630
.63115E+09	231.885	227.739	217.542	217.467	217.463	217.466
.94673E+09	224.343	220.776	212.027	211.962	211.960	211.962
.12623E+10	216.962	213.839	206.197	206.142	206.139	206.141
.15779E+10	209.966	207.215	200.494	200.446	200.444	200.446
.18935E+10	203.776	201.323	195.344	195.302	195.300	195.301
.22090E+10	198.421	196.218	190.859	190.821	190.820	190.821
.25246E+10	193.256	191.260	186.408	186.374	186.373	186.374
.28402E+10	189.091	187.263	182.823	182.792	182.791	182.792
.31558E+10	185.420	183.742	179.669	179.641	179.640	179.641
.63115E+10	167.671	166.660	164.214	164.198	164.197	164.197
.94673E+10	160.008	159.214	157.297	157.285	157.284	157.285
.12623E+11	155.649	154.981	153.368	153.358	153.357	153.358
.15779E+11	152.388	151.804	150.394	150.386	150.385	150.386
.18935E+11	149.185	148.668	147.421	147.413	147.413	147.413
.22090E+11	146.466	146.001	144.879	144.872	144.871	144.872
.25246E+11	144.086	143.666	142.652	142.646	142.646	142.646
.28402E+11	142.018	141.634	140.709	140.704	140.703	140.704
.31558E+11	140.239	139.886	139.034	139.029	139.029	139.029

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:12 JUN 12, 1995 CP= 60639.500
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	129 TEMP s02i090	209 TEMP h02i090	261 TEMP c02i090	313 TEMP h02o090	157 TEMP s02o090	469 TEMP t02i090
.10000E-05	134.256	154.070	161.453	153.295	135.127	135.065
.20000E-05	170.914	188.329	194.755	187.272	171.056	170.994
31.558	170.914	188.329	194.754	187.272	171.056	170.994
.31558E+07	194.399	210.317	216.099	209.048	194.004	193.943
.63116E+07	199.198	214.810	220.467	213.503	198.699	198.639
.94673E+07	201.989	217.386	222.958	216.063	201.440	201.380
.12623E+08	203.968	219.182	224.682	217.848	203.381	203.321
.15779E+08	205.501	220.560	226.000	219.219	204.885	204.825
.18935E+08	206.741	221.666	227.055	220.321	206.105	206.046
.22090E+08	207.780	222.587	227.930	221.239	207.125	207.066
.25246E+08	208.679	223.376	228.679	222.026	208.009	207.951
.28402E+08	209.461	224.056	229.320	222.705	208.778	208.719

.31558E+08	210.159	224.658	229.885	223.306	209.465	209.407
.63115E+08	214.881	228.645	233.598	227.301	214.121	214.065
.94673E+08	217.645	230.846	235.593	229.521	216.855	216.801
.12623E+09	219.473	232.223	236.805	230.919	218.669	218.616
.15779E+09	220.918	233.306	237.756	232.020	220.106	220.054
.18935E+09	221.526	233.533	237.847	232.276	220.721	220.671
.22090E+09	222.231	233.936	238.141	232.700	221.430	221.381
.25246E+09	222.819	234.241	238.344	233.026	222.022	221.974
.28402E+09	222.657	233.841	237.861	232.651	221.876	221.830
.31558E+09	222.714	233.703	237.654	232.532	221.944	221.898
.63115E+09	217.536	226.786	230.131	225.828	216.939	216.901
.94673E+09	212.021	219.969	222.861	219.177	211.561	211.529
.12623E+10	206.193	213.146	215.690	212.482	205.841	205.813
.15779E+10	200.490	206.615	208.868	206.055	200.222	200.198
.18935E+10	195.340	200.796	202.813	200.316	195.133	195.112
.22090E+10	190.856	195.751	197.568	195.334	190.695	190.676
.25246E+10	186.405	190.842	192.495	190.478	186.282	186.265
.28402E+10	182.820	186.884	188.402	186.560	182.722	182.707
.31558E+10	179.667	183.398	184.795	183.107	179.590	179.576
.63115E+10	164.212	166.463	167.316	166.311	164.203	164.196
.94673E+10	157.296	159.063	159.736	158.952	157.302	157.296
.12623E+11	153.367	154.856	155.425	154.766	153.378	153.373
.15779E+11	150.394	151.696	152.194	151.620	150.407	150.403
.18935E+11	147.420	148.573	149.015	148.507	147.435	147.431
.22090E+11	144.878	145.916	146.314	145.858	144.894	144.890
.25246E+11	142.652	143.589	143.950	143.538	142.668	142.665
.28402E+11	140.709	141.565	141.895	141.520	140.725	140.722
.31558E+11	139.034	139.822	140.126	139.781	139.049	139.047

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:12 JUN 12, 1995 CP= 60639.510
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1236 TEMP s04i090	1316 TEMP h04i090	1368 TEMP c04i090	1407 TEMP h04o090	1264 TEMP s04o090	1518 TEMP t04o090
.10000E-05	135.075	142.755	139.869	127.515	87.3692	87.1885
.20000E-05	171.000	176.898	173.209	161.064	122.799	122.608
31.558	171.001	176.897	173.208	161.063	122.800	122.608
.31558E+07	193.946	198.755	194.590	182.664	145.843	145.647
.63116E+07	198.641	203.249	199.002	187.120	150.621	150.424
.94673E+07	201.382	205.864	201.588	189.765	153.548	153.352
.12623E+08	203.323	207.703	203.409	191.649	155.693	155.497
.15779E+08	204.827	209.123	204.819	193.118	157.398	157.202
.18935E+08	206.048	210.270	205.962	194.318	158.815	158.620
.22090E+08	207.067	211.233	206.923	195.333	160.031	159.836
.25246E+08	207.952	212.064	207.756	196.216	161.107	160.912
.28402E+08	208.721	212.786	208.479	196.991	162.066	161.872
.31558E+08	209.408	213.428	209.126	197.687	162.941	162.747
.63115E+08	214.066	217.768	213.523	202.499	169.191	169.003
.94673E+08	216.801	220.280	216.108	205.434	173.316	173.133
.12623E+09	218.616	221.927	217.829	207.452	176.330	176.151
.15779E+09	220.055	223.233	219.198	209.065	178.756	178.580
.18935E+09	220.671	223.728	219.783	209.930	180.532	180.362
.22090E+09	221.381	224.339	220.462	210.829	182.148	181.981
.25246E+09	221.974	224.841	221.031	211.606	183.600	183.437
.28402E+09	221.829	224.632	220.892	211.659	184.258	184.099
.31558E+09	221.898	224.644	220.960	211.880	184.968	184.811
.63115E+09	216.901	219.235	216.162	208.565	186.239	186.109
.94673E+09	211.530	213.570	210.975	204.506	185.607	185.498
.12623E+10	205.814	207.638	205.419	199.822	183.543	183.449
.15779E+10	200.198	201.840	199.931	195.062	180.937	180.857
.18935E+10	195.113	196.601	194.941	190.654	178.231	178.161

.22090E+10	190.677	192.035	190.576	186.764	175.727	175.665
.25246E+10	186.266	187.518	186.225	182.803	172.894	172.839
.28402E+10	182.708	183.871	182.707	179.596	170.587	170.537
.31558E+10	179.577	180.657	179.606	176.769	168.555	168.509
.63115E+10	164.196	164.894	164.319	162.670	157.887	157.862
.94673E+10	157.296	157.861	157.432	156.159	152.460	152.441
.12623E+11	153.373	153.858	153.506	152.445	149.357	149.341
.15779E+11	150.403	150.832	150.531	149.609	146.926	146.913
.18935E+11	147.431	147.815	147.554	146.744	144.384	144.372
.22090E+11	144.891	145.239	145.008	144.282	142.168	142.158
.25246E+11	142.665	142.982	142.776	142.125	140.224	140.214
.28402E+11	140.722	141.014	140.828	140.235	138.504	138.495
.31558E+11	139.047	139.317	139.147	138.603	137.014	137.006

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:12 JUN 12, 1995 CP= 60639.520
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4057 TEMP	3993 TEMP	4484 TEMP
	i04i090	i04o090	o04o090
.10000E-05	30.1086	29.1748	26.1377
.20000E-05	73.1188	72.0359	68.9882
31.558	73.1188	72.0359	68.9882
.31558E+07	100.878	99.7101	96.5982
.63116E+07	106.667	105.489	102.374
.94673E+07	110.302	109.121	106.013
.12623E+08	113.040	111.859	108.759
.15779E+08	115.254	114.073	110.983
.18935E+08	117.115	115.936	112.855
.22090E+08	118.739	117.562	114.491
.25246E+08	120.188	119.013	115.952
.28402E+08	121.499	120.327	117.277
.31558E+08	122.706	121.537	118.498
.63115E+08	131.478	130.339	127.393
.94673E+08	137.519	136.410	133.549
.12623E+09	142.052	140.970	138.183
.15779E+09	145.687	144.628	141.902
.18935E+09	148.719	147.688	145.037
.22090E+09	151.325	150.315	147.721
.25246E+09	153.690	152.702	150.162
.28402E+09	155.116	154.148	151.661
.31558E+09	156.451	155.499	153.054
.63115E+09	163.076	162.289	160.265
.94673E+09	166.240	165.580	163.876
.12623E+10	166.949	166.386	164.930
.15779E+10	166.570	166.087	164.833
.18935E+10	165.597	165.176	164.083
.22090E+10	164.497	164.127	163.162
.25246E+10	162.790	162.462	161.602
.28402E+10	161.383	161.086	160.310
.31558E+10	160.149	159.880	159.175
.63115E+10	152.947	152.797	152.398
.94673E+10	148.612	148.498	148.194
.12623E+11	146.131	146.037	145.785
.15779E+11	144.114	144.032	143.815
.18935E+11	141.899	141.828	141.638
.22090E+11	139.932	139.869	139.700
.25246E+11	138.205	138.149	137.997
.28402E+11	136.660	136.609	136.472
.31558E+11	135.316	135.270	135.144

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 60639.680 TIME= 04:15:12

NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 91 ITEM= TEMP COMP= NAME= h01o135

VARIABLE 4 IS AT NODE 16 ITEM= TEMP COMP= NAME= s01o135

VARIABLE 5 IS AT NODE 362 ITEM= TEMP COMP= NAME= t01o135

VARIABLE 6 IS AT NODE 3770 ITEM= TEMP COMP= NAME= ts1o135

VARIABLE 7 IS AT NODE 1790 ITEM= TEMP COMP= NAME= t07i135

VARIABLE 8 IS AT NODE 1565 ITEM= TEMP COMP= NAME= s07i135

VARIABLE 9 IS AT NODE 1649 ITEM= TEMP COMP= NAME= h07i135

VARIABLE 10 IS AT NODE 1705 ITEM= TEMP COMP= NAME= c07i135

VARIABLE 11 IS AT NODE 1760 ITEM= TEMP COMP= NAME= h07o135

VARIABLE 12 IS AT NODE 1580 ITEM= TEMP COMP= NAME= s07o135

VARIABLE 13 IS AT NODE 1848 ITEM= TEMP COMP= NAME= g07i135

VARIABLE 14 IS AT NODE 3603 ITEM= TEMP COMP= NAME= g07o135

VARIABLE 15 IS AT NODE 4085 ITEM= TEMP COMP= NAME= i07i135

VARIABLE 16 IS AT NODE 4025 ITEM= TEMP COMP= NAME= i07o135

VARIABLE 17 IS AT NODE 4713 ITEM= TEMP COMP= NAME= o07o135
Add centers of assemblies 9 and 10

VARIABLE 18 IS AT NODE 3053 ITEM= TEMP COMP= NAME= c09i135

VARIABLE 19 IS AT NODE 2042 ITEM= TEMP COMP= NAME= c10i135

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES
VARI TYPE IDENTIFIERS NAME MINIMUM AT TIME MAXIMUM AT TIME

2	NSOL	9 TEMP	c01i135	140.2	.3156E+11	240.5	.2525E+09
3	NSOL	91 TEMP	h01o135	139.7	.3156E+11	233.2	.2525E+09
4	NSOL	16 TEMP	s01o135	130.6	.1000E-05	220.0	.3156E+09
5	NSOL	362 TEMP	t01o135	129.5	.1000E-05	219.2	.3156E+09
6	NSOL	3770 TEMP	ts1o135	129.4	.1000E-05	219.2	.3156E+09
7	NSOL	1790 TEMP	t07i135	129.4	.1000E-05	219.1	.3156E+09
8	NSOL	1565 TEMP	s07i135	128.2	.1000E-05	218.3	.3156E+09
9	NSOL	1649 TEMP	h07i135	139.4	.3156E+11	227.4	.2525E+09
10	NSOL	1705 TEMP	c07i135	140.0	.3156E+11	235.1	.2525E+09
11	NSOL	1760 TEMP	h07o135	139.3	.3156E+11	224.7	.2525E+09
12	NSOL	1580 TEMP	s07o135	110.6	.1000E-05	200.3	.3156E+09
13	NSOL	1848 TEMP	g07i135	108.8	.1000E-05	199.0	.3156E+09
14	NSOL	3603 TEMP	g07o135	105.5	.1000E-05	196.5	.3156E+09
15	NSOL	4085 TEMP	i07i135	28.27	.1000E-05	165.9	.1262E+10
16	NSOL	4025 TEMP	i07o135	27.44	.1000E-05	165.4	.1262E+10
17	NSOL	4713 TEMP	o07o135	26.14	.1000E-05	164.7	.1262E+10
18	NSOL	3053 TEMP	c09i135	129.9	.1000E-05	212.5	.3156E+09
19	NSOL	2042 TEMP	c10i135	130.1	.1000E-05	212.5	.3156E+09
20	NSOL	4057 TEMP	i04i090	30.11	.1000E-05	166.9	.1262E+10
21	NSOL	3993 TEMP	i04o090	29.17	.1000E-05	166.4	.1262E+10
22	NSOL	4484 TEMP	o04o090	26.14	.1000E-05	164.9	.1262E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:15 JUN 12, 1995 CP= 60642.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i135	91 TEMP h01o135	16 TEMP s01o135	362 TEMP t01o135	3770 TEMP ts1o135	1790 TEMP t07i135
.10000E-05	163.925	152.040	130.562	129.468	129.441	129.419
.20000E-05	197.318	186.649	167.321	166.258	166.231	166.210
31.558	197.317	186.649	167.321	166.258	166.231	166.210
.31558E+07	218.731	208.819	190.736	189.662	189.635	189.613
.63116E+07	223.110	213.356	195.553	194.485	194.458	194.437
.94673E+07	225.594	215.959	198.367	197.305	197.278	197.257
.12623E+08	227.312	217.778	200.367	199.312	199.286	199.264
.15779E+08	228.624	219.175	201.920	200.871	200.844	200.823
.18935E+08	229.673	220.298	203.178	202.134	202.108	202.087
.22090E+08	230.541	221.233	204.236	203.197	203.171	203.150
.25246E+08	231.282	222.035	205.151	204.118	204.091	204.070
.28402E+08	231.915	222.727	205.950	204.922	204.896	204.875
.31558E+08	232.473	223.339	206.664	205.641	205.615	205.594
.63115E+08	236.115	227.406	211.519	210.535	210.510	210.490
.94673E+08	238.043	229.667	214.396	213.446	213.422	213.402
.12623E+09	239.196	231.089	216.320	215.397	215.374	215.355
.15779E+09	240.098	232.208	217.844	216.945	216.922	216.903
.18935E+09	240.128	232.471	218.541	217.667	217.645	217.627
.22090E+09	240.375	232.903	219.317	218.464	218.442	218.425
.25246E+09	240.533	233.234	219.970	219.137	219.116	219.099
.28402E+09	240.006	232.855	219.870	219.055	219.034	219.017
.31558E+09	239.764	232.735	219.977	219.177	219.156	219.140
.63115E+09	231.885	225.960	215.269	214.606	214.589	214.576
.94673E+09	224.343	219.250	210.107	209.546	209.532	209.521
.12623E+10	216.962	212.507	204.548	204.067	204.055	204.045
.15779E+10	209.966	206.045	199.067	198.650	198.639	198.631
.18935E+10	203.776	200.282	194.091	193.725	193.716	193.709
.22090E+10	198.421	195.284	189.748	189.423	189.415	189.408
.25246E+10	193.256	190.415	185.413	185.122	185.115	185.109
.28402E+10	189.091	186.490	181.919	181.655	181.648	181.643
.31558E+10	185.420	183.033	178.846	178.605	178.599	178.594
.63115E+10	167.671	166.235	163.738	163.600	163.596	163.593
.94673E+10	160.008	158.881	156.931	156.824	156.821	156.819
.12623E+11	155.649	154.702	153.063	152.974	152.972	152.970
.15779E+11	152.388	151.560	150.130	150.053	150.051	150.049
.18935E+11	149.185	148.452	147.189	147.121	147.120	147.118
.22090E+11	146.466	145.806	144.671	144.610	144.609	144.608
.25246E+11	144.086	143.490	142.466	142.412	142.411	142.409
.28402E+11	142.018	141.474	140.539	140.490	140.489	140.488
.31558E+11	140.239	139.738	138.878	138.833	138.832	138.831

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:15 JUN 12, 1995 CP= 60642.370
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1565 TEMP s07i135	1649 TEMP h07i135	1705 TEMP c07i135	1760 TEMP h07o135	1580 TEMP s07o135	1848 TEMP g07i135
.10000E-05	128.152	144.291	159.434	146.007	110.571	108.821

.20000E-05	165.012	179.184	192.077	178.976	145.262	143.546
31.558	165.012	179.183	192.077	178.976	145.262	143.546
.31558E+07	188.428	201.317	212.702	199.754	167.048	165.344
.63116E+07	193.262	205.901	216.989	204.095	171.632	169.932
.94673E+07	196.092	208.556	219.447	206.623	174.394	172.702
.12623E+08	198.109	210.423	221.151	208.395	176.388	174.704
.15779E+08	199.676	211.861	222.454	209.762	177.955	176.279
.18935E+08	200.948	213.021	223.501	210.866	179.245	177.577
.22090E+08	202.018	213.992	224.370	211.790	180.341	178.681
.25246E+08	202.945	214.828	225.115	212.587	181.302	179.650
.28402E+08	203.755	215.553	225.753	213.278	182.151	180.506
.31558E+08	204.481	216.197	226.318	213.893	182.919	181.281
.63115E+08	209.424	220.527	230.048	218.037	188.303	186.726
.94673E+08	212.376	223.009	232.084	220.428	191.718	190.193
.12623E+09	214.362	224.620	233.345	221.992	194.141	192.659
.15779E+09	215.936	225.893	234.339	223.237	196.086	194.641
.18935E+09	216.689	226.331	234.496	223.685	197.322	195.918
.22090E+09	217.510	226.901	234.840	224.257	198.515	197.144
.25246E+09	218.205	227.362	235.092	224.727	199.568	198.228
.28402E+09	218.143	227.104	234.666	224.502	199.870	198.559
.31558E+09	218.282	227.082	234.504	224.502	200.296	199.007
.63115E+09	213.863	221.236	227.475	219.058	198.872	197.803
.94673E+09	208.916	215.228	220.596	213.397	196.239	195.335
.12623E+10	203.523	209.031	213.743	207.493	192.662	191.886
.15779E+10	198.177	203.017	207.184	201.723	188.819	188.147
.18935E+10	193.309	197.608	201.336	196.508	185.138	184.549
.22090E+10	189.053	192.904	196.261	191.959	181.844	181.322
.25246E+10	184.789	188.276	191.332	187.463	178.372	177.904
.28402E+10	181.351	184.542	187.351	183.828	175.555	175.131
.31558E+10	178.328	181.255	183.840	180.623	173.075	172.690
.63115E+10	163.439	165.196	166.779	164.896	160.493	160.272
.94673E+10	156.699	158.078	159.330	157.872	154.466	154.297
.12623E+11	152.871	154.031	155.089	153.872	151.027	150.887
.15779E+11	149.963	150.977	151.906	150.847	148.375	148.253
.18935E+11	147.042	147.940	148.764	147.833	145.658	145.551
.22090E+11	144.539	145.347	146.091	145.257	143.309	143.213
.25246E+11	142.348	143.077	143.751	143.001	141.248	141.162
.28402E+11	140.432	141.098	141.715	141.032	139.436	139.358
.31558E+11	138.779	139.393	139.961	139.335	137.869	137.797

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:15 JUN 12, 1995 CP= 60642.380
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3603 TEMP g07o135	4085 TEMP i07i135	4025 TEMP i07o135	4713 TEMP o07o135	3053 TEMP c09i135	2042 TEMP c10i135
.10000E-05	105.459	28.2671	27.4446	26.1377	129.931	130.100
.20000E-05	140.233	71.3675	70.3931	68.9583	163.031	163.219
31.558	140.233	71.3674	70.3931	68.9583	163.030	163.219
.31558E+07	162.074	98.5875	97.5318	96.0195	184.032	183.996
.63116E+07	166.674	104.383	103.319	101.793	188.421	188.385
.94673E+07	169.460	108.033	106.966	105.435	191.028	190.994
.12623E+08	171.477	110.787	109.719	108.186	192.879	192.846
.15779E+08	173.068	113.014	111.948	110.414	194.319	194.288
.18935E+08	174.380	114.889	113.823	112.291	195.495	195.465
.22090E+08	175.498	116.525	115.461	113.930	196.490	196.461
.25246E+08	176.481	117.986	116.923	115.394	197.356	197.327
.28402E+08	177.351	119.308	118.248	116.722	198.113	198.085
.31558E+08	178.140	120.526	119.469	117.945	198.794	198.766
.63115E+08	183.696	129.380	128.351	126.857	203.488	203.461
.94673E+08	187.260	135.494	134.492	133.030	206.342	206.316
.12623E+09	189.809	140.089	139.112	137.680	208.300	208.276

.15779E+09	191.859	143.776	142.819	141.412	209.868	209.845
.18935E+09	193.216	146.864	145.933	144.560	210.690	210.667
.22090E+09	194.503	149.515	148.603	147.257	211.555	211.533
.25246E+09	195.647	151.922	151.029	149.708	212.301	212.279
.28402E+09	196.032	153.387	152.514	151.218	212.332	212.311
.31558E+09	196.524	154.758	153.900	152.624	212.536	212.518
.63115E+09	195.746	161.681	160.972	159.911	209.081	209.064
.94673E+09	193.599	165.058	164.464	163.569	204.926	204.907
.12623E+10	190.395	165.935	165.429	164.665	200.181	200.163
.15779E+10	186.859	165.690	165.256	164.600	195.372	195.353
.18935E+10	183.421	164.821	164.443	163.873	190.927	190.906
.22090E+10	180.322	163.805	163.473	162.971	187.006	186.984
.25246E+10	177.010	162.169	161.873	161.428	183.022	183.001
.28402E+10	174.321	160.815	160.549	160.148	179.795	179.773
.31558E+10	171.952	159.627	159.386	159.023	176.951	176.928
.63115E+10	159.848	152.638	152.503	152.301	162.779	162.760
.94673E+10	153.971	148.371	148.269	148.116	156.245	156.228
.12623E+11	150.616	145.929	145.845	145.719	152.518	152.503
.15779E+11	148.019	143.938	143.865	143.757	149.673	149.659
.18935E+11	145.346	141.745	141.681	141.587	146.801	146.789
.22090E+11	143.029	139.794	139.737	139.654	144.334	144.323
.25246E+11	140.997	138.080	138.030	137.955	142.172	142.161
.28402E+11	139.208	136.546	136.500	136.433	140.278	140.268
.31558E+11	137.660	135.211	135.169	135.107	138.643	138.633

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i180

*** WARNING *** CP= 60642.540 TIME= 04:15:15
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 13 ITEM= TEMP COMP= NAME= h01o180
 VARIABLE 4 IS AT NODE 2 ITEM= TEMP COMP= NAME= s01o180
 VARIABLE 5 IS AT NODE 390 ITEM= TEMP COMP= NAME= t01o180
 VARIABLE 6 IS AT NODE 3759 ITEM= TEMP COMP= NAME= ts5i180
 VARIABLE 7 IS AT NODE 636 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 8 IS AT NODE 516 ITEM= TEMP COMP= NAME= s05i180
 VARIABLE 9 IS AT NODE 520 ITEM= TEMP COMP= NAME= h05i180
 VARIABLE 10 IS AT NODE 524 ITEM= TEMP COMP= NAME= c05i180
 VARIABLE 11 IS AT NODE 528 ITEM= TEMP COMP= NAME= h05o180
 VARIABLE 12 IS AT NODE 517 ITEM= TEMP COMP= NAME= s05o180
 VARIABLE 13 IS AT NODE 680 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 14 IS AT NODE 872 ITEM= TEMP COMP= NAME= s03i180
 VARIABLE 15 IS AT NODE 876 ITEM= TEMP COMP= NAME= h03i180
 VARIABLE 16 IS AT NODE 880 ITEM= TEMP COMP= NAME= c03i180
 VARIABLE 17 IS AT NODE 883 ITEM= TEMP COMP= NAME= h03o180
 VARIABLE 18 IS AT NODE 873 ITEM= TEMP COMP= NAME= s03o180
 VARIABLE 19 IS AT NODE 1036 ITEM= TEMP COMP= NAME= t03o180
 VARIABLE 20 IS AT NODE 4105 ITEM= TEMP COMP= NAME= i03i180

VARIABLE 21 IS AT NODE 3992 ITEM= TEMP COMP= NAME= i03o180

VARIABLE 22 IS AT NODE 4679 ITEM= TEMP COMP= NAME= o03o180

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i180	140.2	.3156E+11	240.5	.2525E+09
3 NSOL	13 TEMP	h01o180	139.8	.3156E+11	234.8	.2525E+09
4 NSOL	2 TEMP	s01o180	132.0	.1000E-05	221.0	.2525E+09
5 NSOL	390 TEMP	t01o180	131.9	.1000E-05	220.9	.2525E+09
6 NSOL	3759 TEMP	ts5i180	131.9	.1000E-05	220.9	.2525E+09
7 NSOL	636 TEMP	t05i180	131.9	.1000E-05	221.0	.2525E+09
8 NSOL	516 TEMP	s05i180	132.0	.1000E-05	221.0	.2525E+09
9 NSOL	520 TEMP	h05i180	139.8	.3156E+11	233.2	.2525E+09
10 NSOL	524 TEMP	c05i180	140.1	.3156E+11	237.9	.2525E+09
11 NSOL	528 TEMP	h05o180	139.8	.3156E+11	232.8	.2525E+09
12 NSOL	517 TEMP	s05o180	135.4	.1000E-05	221.9	.2525E+09
13 NSOL	680 TEMP	t05i180	135.3	.1000E-05	221.9	.2525E+09
14 NSOL	872 TEMP	s03i180	135.3	.1000E-05	221.9	.2525E+09
15 NSOL	876 TEMP	h03i180	139.3	.3156E+11	225.0	.2525E+09
16 NSOL	880 TEMP	c03i180	139.2	.3156E+11	221.8	.2525E+09
17 NSOL	883 TEMP	h03o180	129.7	.1000E-05	213.4	.3156E+09
18 NSOL	873 TEMP	o03o180	93.09	.1000E-05	189.7	.6312E+09
19 NSOL	1036 TEMP	t03o180	92.95	.1000E-05	189.6	.6312E+09
20 NSOL	4105 TEMP	i03i180	29.66	.1000E-05	166.1	.1262E+10
21 NSOL	3992 TEMP	i03o180	28.98	.1000E-05	165.7	.1262E+10
22 NSOL	4679 TEMP	o03o180	26.14	.1000E-05	164.4	.1262E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:18 JUN 12, 1995 CP= 60645.660
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i180	13 TEMP h01o180	2 TEMP s01o180	390 TEMP t01o180	3759 TEMP ts5i180	636 TEMP t05i180
.10000E-05	163.925	154.798	131.986	131.892	131.892	131.899
.20000E-05	197.318	189.084	168.717	168.625	168.625	168.633
31.558	197.317	189.084	168.717	168.626	168.625	168.633
.31558E+07	218.731	211.008	192.071	191.982	191.982	191.989
.63116E+07	223.110	215.504	196.883	196.794	196.794	196.801
.94673E+07	225.594	218.077	199.689	199.600	199.600	199.608
.12623E+08	227.312	219.871	201.682	201.595	201.595	201.602
.15779E+08	228.624	221.248	203.228	203.141	203.141	203.148
.18935E+08	229.673	222.354	204.480	204.394	204.394	204.401
.22090E+08	230.541	223.272	205.531	205.445	205.445	205.452
.25246E+08	231.282	224.060	206.441	206.355	206.355	206.363
.28402E+08	231.915	224.738	207.234	207.149	207.149	207.156
.31558E+08	232.473	225.338	207.943	207.858	207.858	207.865
.63115E+08	236.115	229.305	212.749	212.668	212.668	212.674
.94673E+08	238.043	231.490	215.586	215.507	215.507	215.514
.12623E+09	239.196	232.851	217.475	217.398	217.398	217.405
.15779E+09	240.098	233.921	218.971	218.896	218.896	218.902
.18935E+09	240.128	234.132	219.634	219.562	219.562	219.568
.22090E+09	240.375	234.523	220.384	220.314	220.314	220.320
.25246E+09	240.533	234.815	221.013	220.944	220.944	220.950
.28402E+09	240.006	234.404	220.891	220.823	220.823	220.829
.31558E+09	239.764	234.258	220.980	220.914	220.914	220.920
.63115E+09	231.885	227.245	216.098	216.043	216.043	216.048
.94673E+09	224.343	220.355	210.804	210.758	210.758	210.762

.12623E+10	216.962	213.476	205.146	205.106	205.106	205.109
.15779E+10	209.966	206.899	199.582	199.548	199.548	199.551
.18935E+10	203.776	201.043	194.542	194.512	194.512	194.514
.22090E+10	198.421	195.968	190.146	190.119	190.119	190.122
.25246E+10	193.256	191.035	185.769	185.745	185.745	185.747
.28402E+10	189.091	187.058	182.241	182.219	182.219	182.221
.31558E+10	185.420	183.554	179.138	179.118	179.118	179.120
.63115E+10	167.671	166.549	163.905	163.893	163.893	163.894
.94673E+10	160.008	159.128	157.058	157.049	157.049	157.050
.12623E+11	155.649	154.909	153.169	153.162	153.162	153.162
.15779E+11	152.388	151.742	150.221	150.215	150.215	150.216
.18935E+11	149.185	148.613	147.269	147.264	147.264	147.264
.22090E+11	146.466	145.951	144.743	144.738	144.738	144.738
.25246E+11	144.086	143.621	142.530	142.526	142.526	142.526
.28402E+11	142.018	141.594	140.598	140.594	140.594	140.594
.31558E+11	140.239	139.849	138.932	138.928	138.928	138.928

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:18 JUN 12, 1995 CP= 60645.670
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	516 TEMP s05i180	520 TEMP h05i180	524 TEMP c05i180	528 TEMP h05o180	517 TEMP s05o180	680 TEMP t05i180
.10000E-05	131.984	152.953	161.087	153.308	135.386	135.325
.20000E-05	168.715	187.249	194.414	187.316	171.353	171.293
31.558	168.715	187.249	194.414	187.316	171.354	171.293
.31558E+07	192.068	209.029	215.479	208.744	193.881	193.822
.63116E+07	196.879	213.528	219.848	213.198	198.575	198.516
.94673E+07	199.685	216.112	222.343	215.761	201.319	201.260
.12623E+08	201.679	217.915	224.071	217.551	203.264	203.206
.15779E+08	203.225	219.300	225.393	218.925	204.771	204.713
.18935E+08	204.477	220.413	226.452	220.029	205.994	205.936
.22090E+08	205.528	221.340	227.330	220.949	207.015	206.957
.25246E+08	206.438	222.135	228.082	221.738	207.901	207.844
.28402E+08	207.230	222.821	228.725	222.419	208.671	208.614
.31558E+08	207.939	223.428	229.293	223.021	209.359	209.302
.63115E+08	212.746	227.458	233.026	227.026	214.020	213.965
.94673E+08	215.583	229.698	235.039	229.256	216.759	216.706
.12623E+09	217.471	231.107	236.267	230.662	218.578	218.526
.15779E+09	218.967	232.217	237.230	231.770	220.019	219.968
.18935E+09	219.631	232.474	237.335	232.032	220.635	220.586
.22090E+09	220.381	232.900	237.640	232.462	221.347	221.299
.25246E+09	221.010	233.227	237.853	232.793	221.941	221.894
.28402E+09	220.888	232.849	237.381	232.424	221.798	221.753
.31558E+09	220.977	232.730	237.184	232.311	221.871	221.826
.63115E+09	216.096	225.973	229.738	225.643	216.877	216.840
.94673E+09	210.802	219.276	222.522	219.014	211.503	211.471
.12623E+10	205.144	212.547	215.396	212.340	205.788	205.761
.15779E+10	199.581	206.093	208.609	205.928	200.171	200.148
.18935E+10	194.541	200.333	202.581	200.198	195.083	195.063
.22090E+10	190.145	195.336	197.358	195.225	190.644	190.626
.25246E+10	185.768	190.468	192.304	190.377	186.233	186.217
.28402E+10	182.240	186.542	188.226	186.464	182.674	182.660
.31558E+10	179.137	183.084	184.630	183.017	179.542	179.528
.63115E+10	163.904	166.276	167.214	166.250	164.166	164.158
.94673E+10	157.058	158.918	159.656	158.902	157.269	157.263
.12623E+11	153.169	154.734	155.356	154.723	153.349	153.344
.15779E+11	150.221	151.590	152.134	151.582	150.381	150.377
.18935E+11	147.269	148.479	148.962	148.474	147.412	147.408
.22090E+11	144.742	145.832	146.267	145.828	144.873	144.869
.25246E+11	142.530	143.514	143.907	143.511	142.648	142.645
.28402E+11	140.598	141.496	141.855	141.494	140.707	140.704

1 .31558E+11 138.932 139.758 140.089 139.757 139.032 139.029

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:18 JUN 12, 1995 CP= 60645.680
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	872 TEMP s03i180	876 TEMP h03i180	880 TEMP c03i180	883 TEMP h03o180	873 TEMP s03o180	1036 TEMP t03o180
.10000E-05	135.336	143.330	141.098	129.745	93.0917	92.9475
.20000E-05	171.301	177.534	174.543	163.464	128.855	128.705
31.558	171.301	177.533	174.543	163.464	128.856	128.705
.31558E+07	193.826	198.945	195.445	184.547	151.291	151.137
.63116E+07	198.520	203.438	199.857	189.005	156.062	155.907
.94673E+07	201.264	206.056	202.444	191.651	158.975	158.820
.12623E+08	203.209	207.898	204.267	193.534	161.104	160.949
.15779E+08	204.716	209.320	205.677	195.001	162.790	162.636
.18935E+08	205.939	210.469	206.820	196.197	164.189	164.035
.22090E+08	206.960	211.433	207.781	197.208	165.384	165.231
.25246E+08	207.847	212.265	208.611	198.087	166.439	166.286
.28402E+08	208.616	212.986	209.333	198.857	167.378	167.225
.31558E+08	209.305	213.629	209.978	199.548	168.232	168.080
.63115E+08	213.967	217.964	214.351	204.303	174.297	174.149
.94673E+08	216.708	220.473	216.916	207.189	178.263	178.119
.12623E+09	218.528	222.118	218.619	209.164	181.138	180.997
.15779E+09	219.970	223.422	219.974	210.742	183.449	183.311
.18935E+09	220.588	223.912	220.538	211.561	185.088	184.954
.22090E+09	221.300	224.520	221.202	212.426	186.597	186.466
.25246E+09	221.895	225.018	221.756	213.170	187.947	187.819
.28402E+09	221.753	224.807	221.606	213.194	188.515	188.389
.31558E+09	221.827	224.821	221.668	213.396	189.155	189.032
.63115E+09	216.841	219.384	216.757	209.836	189.704	189.601
.94673E+09	211.472	213.691	211.475	205.580	188.519	188.433
.12623E+10	205.762	207.740	205.850	200.749	186.038	185.965
.15779E+10	200.149	201.924	200.302	195.861	183.087	183.024
.18935E+10	195.064	196.669	195.261	191.350	180.107	180.051
.22090E+10	190.627	192.089	190.853	187.375	177.379	177.330
.25246E+10	186.218	187.563	186.470	183.347	174.366	174.323
.28402E+10	182.661	183.907	182.924	180.084	171.915	171.876
.31558E+10	179.529	180.685	179.799	177.208	169.755	169.720
.63115E+10	164.159	164.899	164.418	162.910	158.560	158.540
.94673E+10	157.264	157.861	157.503	156.338	152.970	152.955
.12623E+11	153.345	153.856	153.564	152.592	149.778	149.765
.15779E+11	150.377	150.829	150.580	149.736	147.289	147.278
.18935E+11	147.409	147.813	147.597	146.855	144.702	144.693
.22090E+11	144.870	145.236	145.045	144.381	142.452	142.443
.25246E+11	142.646	142.979	142.809	142.212	140.477	140.469
.28402E+11	140.704	141.010	140.857	140.314	138.733	138.726
.31558E+11	139.030	139.312	139.173	138.674	137.223	137.217

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:15:18 JUN 12, 1995 CP= 60645.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4105 TEMP i03i180	3992 TEMP i03o180	4679 TEMP o03o180
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.10000E-05	29.6634	28.9765	26.1377
.20000E-05	72.5277	71.7467	68.9285
31.558	72.5277	71.7467	68.9285
.31558E+07	99.1760	98.3368	95.4409
.63116E+07	104.950	104.105	101.211
.94673E+07	108.590	107.743	104.857
.12623E+08	111.335	110.489	107.613
.15779E+08	113.557	112.711	109.845
.18935E+08	115.426	114.581	111.726
.22090E+08	117.056	116.213	113.369
.25246E+08	118.511	117.670	114.836
.28402E+08	119.829	118.989	116.166
.31558E+08	121.042	120.205	117.392
.63115E+08	129.857	129.043	126.321
.94673E+08	135.945	135.153	132.511
.12623E+09	140.521	139.748	137.177
.15779E+09	144.192	143.435	140.923
.18935E+09	147.263	146.527	144.084
.22090E+09	149.901	149.180	146.792
.25246E+09	152.296	151.591	149.254
.28402E+09	153.754	153.063	150.775
.31558E+09	155.121	154.442	152.194
.63115E+09	161.977	161.416	159.557
.94673E+09	165.300	164.829	163.262
.12623E+10	166.141	165.740	164.400
.15779E+10	165.865	165.521	164.367
.18935E+10	164.971	164.671	163.664
.22090E+10	163.934	163.670	162.780
.25246E+10	162.282	162.047	161.254
.28402E+10	160.915	160.703	159.985
.31558E+10	159.715	159.523	158.871
.63115E+10	152.682	152.575	152.204
.94673E+10	148.403	148.321	148.038
.12623E+11	145.955	145.887	145.652
.15779E+11	143.959	143.901	143.698
.18935E+11	141.764	141.713	141.535
.22090E+11	139.811	139.766	139.607
.25246E+11	138.095	138.055	137.912
.28402E+11	136.559	136.522	136.393
.31558E+11	135.222	135.189	135.070

***** ROUTINE COMPLETED ***** CP = 60645.710

 End of batch input file

PURGE ALL SOLUTION AND POST DATA
 SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21b.db
 FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 64
 NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```

*-----*
|                                     |
|               ANSYS RUN COMPLETED               |
|-----|
|                                     |
|               REV. 5.0 A               HP 9000/7XX               |
|                                     |
| CP TIME      (sec) =    60649.870    TIME = 04:15:22             |
| ELAPSED TIME (sec) =    61810.000    DATE  = 06/12/95             |
|                                     |
|-----|
  
```


↓-----↓

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****

JOB NAME = ucf21w
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****

WORK SPACE REQUESTED	=	16777216	64.000	MB	COMMAND LINE
MINIMUM WORK SPACE REQUIRED	=	4718592	18.000	MB	
MINIMUM WORK SPACE RECOMMENDED	=	6702496	25.568	MB	
WORK SPACE OBTAINED	=	16777214	64.000	MB	
BYTES PER WORD	=	4			

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 RESULTS SHOULD BE IMMEDIATELY BROUGHT TO OUR ATTENTION.

ENTER /SHOW,device TO SET THE GRAPHICS DISPLAY TO device(e.g. X11,4207,ETC.)

ENTER /MENU,ON TO START THE ANSYS MENU SYSTEM

ENTER HELP FOR GENERAL ANSYS HELP INFORMATION

```

1 /COM, *****
2 /COM, ANSYS REVISION 5.0A 6/10/1995
3 /COM, 2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf21w.inp *
7 /COM, * 21 PWR UCF with Low T.L. Disposal Container *
8 /COM, * Helium Fill Gas *
9 /COM, *
10 /COM, * Material Property file: props01.dat *
11 /COM, *
12 /COM, * SNF Conductivity file: pwr15e.parm *
13 /COM, * 15x15 Mark-B4 PWR SNF Assembly *
14 /COM, *
15 /COM, * SNF Heat Loads file: snf1048.dat *
16 /COM, * SNF Type: 10 years old, 48086 MWd/MTU *
17 /COM, *
18 /COM, * Surface Temp. file: c21w5a.parm *
```

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19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 45.0 m *
22 /COM, *      WP c/c spacing = 32.331 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Read in average effective conductivities from SNF model
33 PARRES,CHANGE,pwr15e,parm,
34 /COM, Read in surface temps. from repository model
35 PARRES,CHANGE,c21w5a,parm,
36 /COM, *****
37 /COM,
38 /COM, Define Required Constants:
39 PI=3.141592654
40 /COM,
41 /COM, Define UCF/waste package parameters
42 /COM, (UCF dimensions converted from inches/cm/mm to meters were requi
43 /COM, MIRAD = inner radius of UCF He Backfill shell (m) (NOT
44 /COM, MWALL = UCF He Backfill shell thickness (m) (NOT
45 /COM, DCRAD = disposal container outer radius (m)
46 /COM, OWALL = outer barrier thickness (m)
47 /COM, IWALL = inner barrier thickness (m)
48 /COM, DCIRD = disposal container inner radius (m)
49 /COM,
50 /COM, GCORN = corner guide width (m)
51 /COM, GWALL = basket guide thickness (m)
52 /COM, GLEN1 = side guide 1/3 width (m) (NOT USED)
53 /COM, GLENT = side guide total width (m) (NOT USED)
54 /COM,
55 /COM, HCELL = 1/2 of basket cell opening (m)
56 /COM, SWALL = stainless tube thickness (m)
57 /COM, TWALL = Aluminum thermal shunt thickness (m)
58 /COM, AWALL = Al/boron tube thickness (m) (NOT USED)
59 /COM,
60 /COM, ACTVL = active fuel length
61 /COM, PEAKF = assembly heat axial peaking factor
62 /COM,
63 /COM, MIRAD=1363.6/1000.0/2.0
64 /COM, MWALL=1.0000*2.54/100.0
65 DCRAD=1.5290/2.0
66 OWALL=0.0500
67 IWALL=0.0200
68 DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 GCORN=233.5/1000.0
71 GWALL=9.5/1000.0
72 /COM, GLEN1=9.6170*2.54/100.0
73 /COM, GLENT=28.866*2.54/100.0
74 /COM,
75 HCELL=223.5/1000.0/2.0
76 SWALL=5.0/1000.0
77 TWALL=10.0/1000.0
78 /COM, AWALL=0.2500*2.54/100.0
79 /COM,
80 ACTVL=141.8*2.54/100.0
81 PEAKF=1.25
82 /COM, Define calculated parameters
83 /COM, ASSY = assembly heat production (W) f(yrs)
84 /COM, FUEL = volumetric heat production (W/m3) f(yrs)
85 /COM, FVOLU = assy_volume=cell_width^2*active_length
86 /COM,
87 /COM, PITCH = basket cell outer width (m)
88 /COM, QCELL = 1/4 of basket cell opening (m)

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89 /COM,          SCELL = 1/2 of basket cell opening+SS wall(m)
90 /COM,          ACELL = 1/2 of basket cell opening+SS+AL (m)   (NOT USED)
91 /COM,
92 /COM,          GX## = x coord. of basket guide or thermal shunt/shell c
93 /COM,          GX## = y coord. of basket guide or thermal shunt/shell c
94 /COM,
95 /COM,          MI45 = x coord. MIRAD at 45 deg.                (NOT USED)
96 /COM,          MO45 = x coord. MIRAD+MWALL at 45 deg.         (NOT USED)
97 /COM,          DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
98 /COM,          DM45 = x coord. DCRAD-OWALL at 45 deg.
99 /COM,          DO45 = x coord. DCRAD at 45 deg.
100 *SET,ASSY,
101 *DIM,ASSY, TABLE,101,1,
102 *DIM,FUEL, TABLE,101,1
103 FVOLU=4*HCELL*HCELL*ACTVL
104 /COM,
105 PITCH=(HCELL+SWALL)*2.0
106 QCELL=HCELL/2.0
107 SCELL=HCELL+SWALL
108 /COM,          ACELL=HCELL+SWALL+AWALL
109 /COM,
110 GX22=SCELL
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=SCELL+TWALL
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=PITCH+TWALL+SCELL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 GX25=GX23+PITCH+GWALL
117 GY25=SQRT(DCIRD*DCIRD-GX25*GX25)
118 /COM,
119 /COM,          MI45=MIRAD/SQRT(2.0)
120 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
121 DI45=DCIRD/SQRT(2.0)
122 DM45=(DCIRD-OWALL)/SQRT(2.0)
123 DO45=DCIRD/SQRT(2.0)
124 /COM,
125 /COM,          Define Transient Time parameters based upon the following:
126 /COM,          Note: 1 year = 3.15576e7 seconds
127 /COM,          TM_START = start time (sec)
128 /COM,          TMI* = time increment for solution (sec)
129 /COM,          TME* = start and stop for time do-loops (sec)
130 /COM,          TMTMAX = time of maximum cladding temperature
131 /COM,
132 TM_START=(1.0E-6)*(3.15576E7)
133 TMI0=0.1*3.15576E7
134 TMI1=1.0*3.15576E7
135 TMI10=10.0*3.15576E7
136 TMI100=100.0*3.15576E7
137 TMI1000=1000.0*3.15576E7
138 TME0=0.9*3.15576E7+TM_START
139 TME1=TMI1+TM_START
140 TME9=9.0*3.15576E7+TM_START
141 TME10=TMI10+TM_START
142 TME50=50.0*3.15576E7+TM_START
143 TME90=90.0*3.15576E7+TM_START
144 TME100=TMI100+TM_START
145 TME1000=TMI1000+TM_START
146 /COM,
147 /COM,          *****
148 /COM,          Define different element types
149 /PREP7
150 ETYPE
151 ET, 1,55,
152 ET, 2,70,
153 ET, 7,32,
154 ET, 16,57,
155 ET, 17,32,
156 ET, 18,50,1,
157 ET, 19,31,
158 ET, 27,32,

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159 /COM, *****
160 /COM,      File props01.dat describes material properties
161 /COM,      and thier reference numbers
162 MPREAD,props01,dat,
163 /COM,      Read in single assembly heat loads
164 /COM,      Calculate the volumetric heat generation
165 /COM,      (Assembly time is in years, FUEL is in seconds)
166 /INPUT,snf1048,dat
167 *VFACT,3.15576E7,
168 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
169 *VFACT,(PEAKF/FVOLU),
170 *VFUN,FUEL(1),COPY,ASSY(1),
171 FUEL(0,1)=1.0
172 /COM, *****
173 /COM,      Define new material 14 for SNF effective conductivity
174 /COM,      Density:      DENS      (kg/m^3)
175 /COM,      Conductivity: KXX      (W/m/K)
176 /COM,      Specific Heat: C      (J/kg/K)
177 MPTEMP
178 MPTEMP, 1, .00000E+00,
179 MPDATA,DENS,14, 1, .396004E+04,
180 MPDATA, C,14, 1, .27400E+03,
181 /COM,      Store average effective conductivities
182 IINC=1
183 TBSKT=25.0
184 MPTEMP
185 MPTEMP,IINC,TBSKT,
186 IINC=IINC+1
187 *DO,TBSKT,50.0,400.0,50.0,
188     MPTEMP,IINC,TBSKT,
189     IINC=IINC+1
190 *ENDDO
191 IINC=1
192 TBSKT=25.0
193 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
194 IINC=IINC+1
195 *DO,TBSKT,50.0,400.0,50.0,
196     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
197     IINC=IINC+1
198 *ENDDO
199 /COM, *****
200 /COM,      Define new material 15 for low thermal loading
201 /COM,      outer barrier of 70/30 Copper Nickel (C71500)
202 /COM,      Density:      DENS      (kg/m^3)
203 /COM,      Conductivity: KXX      (W/m/K)
204 /COM,      Specific Heat: C      (J/kg/K)
205 MPTEMP
206 MPTEMP, 1, .00000E+00,
207 /COM,      Density (lb/in^3 converted to kg/m^3)
208 MPDATA,DENS,15, 1,(0.323*2.768E+04),
209 /COM,      Specific Heat (Btu/lb/F converted to J/kg/K)
210 MPDATA, C,15, 1,(0.09/2.3886E-04),
211 /COM,      Conductivity (Btu/hr/ft/F converted to W/m/K)
212 MPTEMP
213 MPTEMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
214 MPTEMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
215 MPTEMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
216 MPTEMP, 7,(5.0/9.0*(1112.0-32.0)),(5.0/9.0*(1292.0-32.0)),
217 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
218 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
219 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
220 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
221 /COM, *****
222 /COM,      Construct geometry for Disposal Container
223 /COM,
224 /COM,      Define center and axis keypoints for waste package
225 /COM,      Also, create placeholder keypoints and lines
226 /COM,      (K's 1,2,3,4,5,6,7,8)
227 /COM,      (L's 1,2,3,4)
228 K,1,0.0,0.0,0.0,

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229 K,2,0.0,0.0,1.0,
230 K,3,0.0,0.0,1.3,
231 K,4,0.0,0.0,1.4,
232 K,5,0.0,0.0,1.5,
233 K,6,0.0,0.0,1.6,
234 K,7,0.0,0.0,1.7,
235 K,8,0.0,0.0,1.8,
236 L,3,4,
237 L,4,5,
238 L,5,6,
239 L,6,7,
240 /COM,      Define disposal container outer radius and material interface
241 /COM,      (K's 9,10,11,12,13,14)
242 /COM,      (L's 5,6,7,8,9,10,11)
243 /COM,      (A's 1,2)
244 K, 9,      0.0,      (0.0-DCRAD),0.0,
245 K,10,      DCRAD,      0.0,0.0,
246 K,11,      0.0,      DCRAD,0.0,
247 K,12,      0.0,      (OWALL-DCRAD),0.0,
248 K,13,      (DCRAD-OWALL),      0.0,0.0,
249 K,14,      0.0,      (DCRAD-OWALL),0.0,
250 L,10,13,
251 LARC,10, 9,1,      DCRAD,
252 LARC,11,10,1,      DCRAD,
253 LARC,13,12,1,      (DCRAD-OWALL),
254 LARC,14,13,1,      (DCRAD-OWALL),
255 L,11,14,
256 L, 9,12,
257 AL, 5, 6,11, 8,
258 AL,10, 7, 5, 9,
259 /COM,      *****
260 /COM,      Define UCF shell inner edge and area
261 /COM,      (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
262 /COM,      ( 31,32,33)
263 /COM,      (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
264 /COM,      ( 28,29,30,31,32)
265 /COM,      (A's 3,4)
266 K,15, 0.0,      DCIRD,0.0,
267 K,16, GX22,      GY22,0.0,
268 K,17, GX23,      GY23,0.0,
269 K,18, GX24,      GY24,0.0,
270 K,19, GX25,      GY25,0.0,
271 K,20, GY25,      GX25,0.0,
272 K,21, GY24,      GX24,0.0,
273 K,22, GY23,      GX23,0.0,
274 K,23, GY22,      GX22,0.0,
275 K,24,DCIRD,      0.0,0.0,
276 K,25, GY22, (0.0-GX22),0.0,
277 K,26, GY23, (0.0-GX23),0.0,
278 K,27, GY24, (0.0-GX24),0.0,
279 K,28, GY25, (0.0-GX25),0.0,
280 K,29, GX25, (0.0-GY25),0.0,
281 K,30, GX24, (0.0-GY24),0.0,
282 K,31, GX23, (0.0-GY23),0.0,
283 K,32, GX22, (0.0-GY22),0.0,
284 K,33, 0.0,(0.0-DCIRD),0.0,
285 L,14,15,
286 LARC,16,15,1,DCIRD,
287 LARC,17,16,1,DCIRD,
288 LARC,18,17,1,DCIRD,
289 LARC,19,18,1,DCIRD,
290 LARC,20,19,1,DCIRD,
291 LARC,21,20,1,DCIRD,
292 LARC,22,21,1,DCIRD,
293 LARC,23,22,1,DCIRD,
294 LARC,24,23,1,DCIRD,
295 LARC,25,24,1,DCIRD,
296 LARC,26,25,1,DCIRD,
297 LARC,27,26,1,DCIRD,
298 LARC,28,27,1,DCIRD,

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299 LARC,29,28,1,DCIRD,
300 LARC,30,29,1,DCIRD,
301 LARC,31,30,1,DCIRD,
302 LARC,32,31,1,DCIRD,
303 LARC,33,32,1,DCIRD,
304 L,33,12,
305 L,24,13,
306 LSEL,S,LINE,,12,21,
307 LSEL,A,LINE,, 9,
308 LSEL,A,LINE,,32,
309 AL,ALL,
310 LSEL,S,LINE,,22,31,
311 LSEL,A,LINE,, 8,
312 LSEL,A,LINE,,32,
313 AL,ALL,
314 LSEL,ALL,
315 /COM, *****
316 /COM, Define tube guides
317 /COM, (K's 34,35,36,37)
318 /COM, (L's 33,34,35,36,37,38,39,40,41,42)
319 /COM, (A's 5,6,7,8,9,10)
320 /COM,
321 /COM, top guide
322 K,34, GX24, 0.0,
323 K,35, GX25, 0.0,
324 L,19,35,
325 L,35,20,
326 L,21,34,
327 L,34,18,
328 /COM, bottom guide
329 K,36, GX25, (0.0-GX25),0.0,
330 K,37, GX24, (0.0-GX24),0.0,
331 L,28,36,
332 L,36,29,
333 L,30,37,
334 L,37,27,
335 L,34,35,
336 L,37,36,
337 /COM, Guide gaps
338 AL,17,33,34,
339 AL,26,37,38,
340 /COM, Guide steel
341 AL,16,33,41,36,
342 AL,18,35,41,34,
343 AL,25,37,42,40,
344 AL,27,39,42,38,
345 /COM, *****
346 /COM, Define thermal shunts
347 /COM, (K's 38,39,40,41,42,43,44,45,46,47,48,49,50)
348 /COM, ( 51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)
349 /COM, (L's 43,44,45,46,47,48,49)
350 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)
351 /COM, ( 67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)
352 /COM, ( 84,85,86,87,88,89,90)
353 /COM, (A's 11 - 27)
354 /COM,
355 /COM, top horizontal thermal shunt
356 K,38, 0.0, SCELL,0.0,
357 K,39, 0.0, (SCELL+TWALL),0.0,
358 K,40, SCELL, SCELL,0.0,
359 K,41, SCELL, (SCELL+TWALL),0.0,
360 K,42, (SCELL+TWALL), SCELL,0.0,
361 K,43, (SCELL+TWALL), (SCELL+TWALL),0.0,
362 K,44,(SCELL+TWALL+1.0*PITCH), SCELL,0.0,
363 K,45,(SCELL+TWALL+1.0*PITCH), (SCELL+TWALL),0.0,
364 K,46,(SCELL+TWALL+2.0*PITCH), SCELL,0.0,
365 K,47,(SCELL+TWALL+2.0*PITCH), (SCELL+TWALL),0.0,
366 /COM, bottom horizontal thermal shunt
367 K,48, 0.0, (0.0-SCELL),0.0,
368 K,49, 0.0, (0.0-SCELL-TWALL),0.0,

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369 K,50,          SCCELL,          (0.0-SCCELL),0.0,
370 K,51,          SCCELL,          (0.0-SCCELL-TWALL),0.0,
371 K,52,          (SCCELL+TWALL),    (0.0-SCCELL),0.0,
372 K,53,          (SCCELL+TWALL),    (0.0-SCCELL-TWALL),0.0,
373 K,54,(SCCELL+TWALL+1.0*PITCH),    (0.0-SCCELL),0.0,
374 K,55,(SCCELL+TWALL+1.0*PITCH),    (0.0-SCCELL-TWALL),0.0,
375 K,56,(SCCELL+TWALL+2.0*PITCH),    (0.0-SCCELL),0.0,
376 K,57,(SCCELL+TWALL+2.0*PITCH),    (0.0-SCCELL-TWALL),0.0,
377 /COM,          right vertical thermal shunt
378 K,58,          SCCELL,          (SCCELL+TWALL+2.0*PITCH),0.0,
379 K,59,          (SCCELL+TWALL),    (SCCELL+TWALL+2.0*PITCH),0.0,
380 K,60,          SCCELL,          (SCCELL+TWALL+1.0*PITCH),0.0,
381 K,61,          (SCCELL+TWALL),    (SCCELL+TWALL+1.0*PITCH),0.0,
382 K,62,          SCCELL,(0.0-SCCELL-TWALL-1.0*PITCH),0.0,
383 K,63,          (SCCELL+TWALL),(0.0-SCCELL-TWALL-1.0*PITCH),0.0,
384 K,64,          SCCELL,(0.0-SCCELL-TWALL-2.0*PITCH),0.0,
385 K,65,          (SCCELL+TWALL),(0.0-SCCELL-TWALL-2.0*PITCH),0.0,
386 /COM, Lines; shunt widths, top, bottom, then vertical: (43-60)
387 L,38,39,
388 L,40,41,
389 L,42,43,
390 L,44,45,
391 L,46,47,
392 L,48,49,
393 L,50,51,
394 L,52,53,
395 L,54,55,
396 L,56,57,
397 L,58,59,
398 L,60,61,
399 L,41,43,
400 L,40,42,
401 L,50,52,
402 L,51,53,
403 L,62,63,
404 L,64,65,
405 /COM, Lines; shunt edges, top, bottom, then vertical: (61-90)
406 L,39,41,
407 L,40,38,
408 L,43,45,
409 L,44,42,
410 L,45,47,
411 L,46,44,
412 L,47,22,
413 L,23,46,
414 L,48,50,
415 L,51,49,
416 L,52,54,
417 L,55,53,
418 L,54,56,
419 L,57,55,
420 L,56,25,
421 L,26,57,
422 L,58,16,
423 L,17,59,
424 L,60,58,
425 L,59,61,
426 L,41,60,
427 L,61,43,
428 L,50,40,
429 L,42,52,
430 L,62,51,
431 L,53,63,
432 L,64,62,
433 L,63,65,
434 L,32,64,
435 L,65,31,
436 /COM,          define areas for thermal shunts
437 AL,43,61,44,62,
438 AL,44,55,45,56,

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439 AL,45,63,46,64,
440 AL,46,65,47,66,
441 AL,47,67,20,68,
442 AL,48,69,49,70,
443 AL,49,57,50,58,
444 AL,50,71,51,72,
445 AL,51,73,52,74,
446 AL,52,75,23,76,
447 AL,14,77,53,78,
448 AL,53,79,54,80,
449 AL,54,81,55,82,
450 AL,56,83,57,84,
451 AL,58,85,59,86,
452 AL,59,87,60,88,
453 AL,60,89,29,90,
454 /COM, *****
455 /COM, Define shell gaps at the exterior of the tube array
456 /COM, (K's 66 - 67)
457 /COM, (L's 91 - 99)
458 /COM, (A's 28 - 34)
459 /COM,
460 K,66, 0.0, (SCell+TWALL+2.0*PITCH),0.0,
461 K,67, 0.0,(0.0-SCell-TWALL-2.0*PITCH),0.0,
462 /COM,
463 L,15,66,
464 L,66,58,
465 L,59,18,
466 L,21,47,
467 L,46,56,
468 L,57,27,
469 L,30,65,
470 L,64,67,
471 L,67,33,
472 /COM,
473 AL,13,91,92,77,
474 AL,15,78,93,
475 AL,19,94,67,
476 AL,21,68,95,75,22,
477 AL,24,76,96,
478 AL,28,97,90,
479 AL,30,89,98,99,
480 /COM, *****
481 /COM, Define center half-tube
482 /COM, (K's 68-75)
483 /COM, (L's 100-110)
484 /COM, (A's 35-38)
485 K,68, 0.0, HCELL,0.0,
486 K,69, HCELL, HCELL,0.0,
487 K,70, 0.0, (0.0-HCELL),0.0,
488 K,71, HCELL, (0.0-HCELL),0.0,
489 K,72, 0.0, SCELL,0.0,
490 K,73, SCELL, SCELL,0.0,
491 K,74, 0.0, (0.0-SCELL),0.0,
492 K,75, SCELL, (0.0-SCELL),0.0,
493 L,70,68,
494 L,70,74,
495 L,68,72,
496 L,71,75,
497 L,69,73,
498 L,75,74,
499 L,71,70,
500 L,68,69,
501 L,72,73,
502 L,69,71,
503 L,73,75,
504 AL,100,106,109,107,
505 AL,101,105,103,106,
506 AL,109,103,110,104,
507 AL,102,107,104,108,
508 /COM, *****

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509 /COM,          Define center full-tube
510 /COM,          (K's 76 - 83)
511 /COM,          (L's 111 - 122)
512 /COM,          (A's 39 - 43)
513 K,76,          (PITCH+TWALL-HCELL),      HCELL,0.0,
514 K,77,          (PITCH+TWALL+HCELL),      HCELL,0.0,
515 K,78,          (PITCH+TWALL-HCELL),      (0.0-HCELL),0.0,
516 K,79,          (PITCH+TWALL+HCELL),      (0.0-HCELL),0.0,
517 K,80,          (PITCH+TWALL-SCCELL),      SCCELL,0.0,
518 K,81,          (PITCH+TWALL+SCCELL),      SCCELL,0.0,
519 K,82,          (PITCH+TWALL-SCCELL),      (0.0-SCCELL),0.0,
520 K,83,          (PITCH+TWALL+SCCELL),      (0.0-SCCELL),0.0,
521 L,78,82,
522 L,76,80,
523 L,79,83,
524 L,77,81,
525 L,83,82,
526 L,79,78,
527 L,76,77,
528 L,80,81,
529 L,82,80,
530 L,78,76,
531 L,77,79,
532 L,81,83,
533 AL,120,116,121,117,
534 AL,119,111,120,112,
535 AL,111,115,113,116,
536 AL,121,113,122,114,
537 AL,112,117,114,118,
538 /COM,          *****
539 /COM,          Set element shapes and sizes for tubes
540 /COM,          14x14 mesh in fuel with 2
541 /COM,          divisions per tube layer
542 ESHAPE,2,
543 ESIZE,,1,
544 LSEL,S,LINE,,115,122,1,
545 LSEL,A,LINE,,109,110,1,
546 LSEL,A,LINE,,100,
547 LESIZE,ALL,,,14,
548 LSEL,S,LINE,,105,108,1,
549 LESIZE,ALL,,,7,
550 LSEL,S,LINE,,101,104,1,
551 LSEL,A,LINE,,111,114,1,
552 LESIZE,ALL,,,2,
553 LSEL,ALL,
554 /COM,
555 /COM,          Mesh areas
556 /COM,          first fuel, then stainless tubes
557 MAT,14,
558 TYPE,1,
559 AMESH,35,
560 AMESH,39,
561 MAT,1,
562 TYPE,1,
563 AMESH,36,38,1,
564 AMESH,40,43,1,
565 /COM,          *****
566 /COM,          Copy tube mesh
567 /COM,
568 /COM,          center half tube above and below
569 /COM,          (A's 44 - 47)
570 AGEN,2,35,38,1,0.0,(PITCH+TWALL),0.0,0,0,
571 /COM,          (A's 48 - 51)
572 AGEN,2,35,38,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
573 /COM,          (A's 52 - 55)
574 AGEN,2,35,38,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
575 /COM,          (A's 56 - 59)
576 AGEN,2,35,38,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
577 /COM,
578 /COM,          center full tube side, above, and below

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579 /COM, (A's 60 - 64 = Side)
580 AGEN,2,39,43,1,PITCH,0.0,0.0,0.0,
581 /COM, (A's 65 - 69 = up 1)
582 AGEN,2,39,43,1,0.0,(PITCH+TWALL),0.0,0.0,
583 /COM, (A's 70 - 74 = up 2)
584 AGEN,2,39,43,1,0.0,((2.0*PITCH)+TWALL),0.0,0.0,
585 /COM, (A's 75 - 79 = down 1)
586 AGEN,2,39,43,1,0.0,(0.0-PITCH-TWALL),0.0,0.0,
587 /COM, (A's 80 - 84 = down 2)
588 AGEN,2,39,43,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0.0,
589 /COM, center full tube get corners
590 /COM, (A's 85 - 89 = up corner)
591 AGEN,2,60,64,1,0.0,(PITCH+TWALL),0.0,0.0,
592 /COM, (A's 90 - 94 = down corner)
593 AGEN,2,60,64,1,0.0,(0.0-PITCH-TWALL),0.0,0.0,
594 /COM,
595 NUMMRG,NODE,
596 NUMMRG,KP,
597 /COM, *****
598 /COM, Create mesh in tube guides, thermal shunts
599 /COM, Set mesh size for gaps.....
600 ESIZE,,2,
601 LSEL,S,LINE,,41,60,1,
602 LSEL,A,LINE,,14,20,2,
603 LSEL,A,LINE,,23,29,2,
604 LESIZE,ALL,, 2,
605 LSEL,S,LINE,,61,62,1,
606 LSEL,A,LINE,,69,70,1,
607 LSEL,A,LINE,,91,92,1,
608 LSEL,A,LINE,,98,99,1,
609 LSEL,A,LINE,,21,22,1,
610 LSEL,A,LINE,,77,78,1,
611 LSEL,A,LINE,,89,90,1,
612 LSEL,A,LINE,,67,68,1,
613 LSEL,A,LINE,,75,76,1,
614 LSEL,A,LINE,,13,
615 LSEL,A,LINE,,30,
616 LESIZE,ALL,, 7,
617 LSEL,S,LINE,,63,66,1,
618 LSEL,A,LINE,,71,74,1,
619 LSEL,A,LINE,,79,88,1,
620 LSEL,A,LINE,,33,40,1,
621 LSEL,A,LINE,,93,97,1,
622 LSEL,A,LINE,,15,19,2,
623 LSEL,A,LINE,,24,28,2,
624 LESIZE,ALL,, 14,
625 /COM, MESH CORNER GUIDES
626 ESHAPE,2,
627 ESIZE,,1,
628 MAT,2,
629 TYPE,1,
630 AMESH, 7,10,1,
631 /COM, MESH THERMAL SHUNTS
632 ESHAPE,2,
633 ESIZE,,1,
634 MAT,13,
635 TYPE,1,
636 AMESH,11,27,1,
637 /COM, *****
638 /COM, Create mesh in UCF inner shell
639 /COM, (L's 105,108)
640 LSEL,S,LINE,,13,21,1,
641 LCCAT,ALL,
642 LSEL,S,LINE,,22,30,1,
643 LCCAT,ALL,
644 LSEL,ALL,
645 LESIZE,8,,64,
646 LESIZE,9,,64,
647 LESIZE,12,, 3,
648 LESIZE,31,, 3,

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649 MAT,2,
650 TYPE,1,
651 AMESH,3,4,1
652 /COM,          Delete concatenated lines
653 /COM,          (L's freed up 105,108)
654 /COM, LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
655 /COM,
656 LSEL,S,LINE,,6,7,1,
657 LESIZE,ALL,,,64,
658 LSEL,ALL,
659 LESIZE, 5,,, 3,
660 LESIZE,10,,, 3,
661 LESIZE,11,,, 3,
662 MAT,15,
663 TYPE,1,
664 AMESH,1,2,1,
665 NUMMRG,NODE,
666 NUMMRG,KP,
667 /COM, *****
668 /COM,          Create mesh in empty basket spaces
669 ESIZE,0.1,
670 ESHAPE,0,
671 MAT,7,
672 TYPE,1,
673 AMESH, 5, 6,1,
674 AMESH,28,34,1,
675 NUMMRG,NODE,
676 NUMMRG,KP,
677 /COM, *****
678 /COM,          Create radiation surface elements
679 /COM,          Basket spaces
680 MAT,2,
681 TYPE,17,
682 LMESH,13,21,2,
683 LMESH,22,30,2,
684 LMESH,33,34,1,
685 LMESH,37,38,1,
686 MAT,1,
687 TYPE,17,
688 LMESH,92,98,1,
689 MAT,13,
690 TYPE,17,
691 LMESH,67,68,1,
692 LMESH,75,78,1,
693 LMESH,89,90,1,
694 /COM,
695 FINISH
696 /COM, *****
697 /COM,          Create element mesh plots to illustrate model
698 /COM,          View mesh for entire model
699 /RESET
700 /TRIAD,OFF,
701 /NUM, 1,
702 /PNUM,MAT, 1,
703 /TYPE,HIDP,
704 /GLINE,,0,
705 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
706 /TITLE, 21 PWR UCF/Waste Package - 1/2 FEM Model
707 /SHOW,meshfull,grph,1,8,
708 EPLOT
709 ESEL,U,MAT,, 7,
710 /SHOW,meshgap,grph,1,8,
711 EPLOT
712 /COM,          View mesh for radiation substructure
713 /PNUM,MAT, 0,
714 /PNUM,TYPE, 1,
715 ESEL,S,TYPE,,17,
716 /TITLE, 21 PWR UCF/Waste Package - Radiation Matrix
717 /SHOW,meshrad,grph,1,8,
718 EPLOT

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719 ESEL,ALL,
720 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
721 /COM, *****
722 /COM,          Generate super-elements
723 /AUX12,
724 ESEL,S,TYPE,,17,
725 NSLE,S,
726 STEF,5.67E-8,
727 GEOM,1,0,
728 VTYPE,0,800,
729 WRITE,spaces,
730 ESEL,ALL,
731 NSEL,ALL,
732 FINISH
733 /PREP7,
734 TYPE,18,
735 SE,spaces,
736 /COM,          Delete radiation edge elements
737 LSEL,S,TYPE,,17,
738 LCLEAR,ALL,
739 LSEL,ALL,
740 FINISH
741 /COM, *****
742 /COM,          Set solution parameters and apply B.C.'s
743 /COM,
744 /COM,          Solve steady-state for initial conditions
745 /COM,          with WP surface equal to drift ambient
746 /COM,          temperature from repository model.
747 /SOLU
748 ANTYPE,TRAN,NEW,
749 NROPT,AUTO,
750 TRNOPT,FULL,
751 TOFFST,273.15,
752 LSEL,S,LINE,,6,
753 LSEL,A,LINE,,7,
754 NSLL,S,1,
755 D,ALL,TEMP,DFAMBT,
756 LSEL,ALL,
757 NSEL,ALL,
758 ASEL,S,MAT,,14,
759 ESLA,S,
760 BFE,ALL,HGEN,,(FUEL(TM_START)),
761 ASEL,ALL,
762 ESEL,ALL,
763 TIMINT,OFF,
764 TIME,1e-6,
765 AUTOTS,ON,
766 KBC,0,
767 SOLVE
768 /COM,          Solve steady-state for initial conditions
769 /COM,          with WP surface temperatures from repository
770 /COM,          steady-state solution.
771 LSEL,S,LINE,,6,
772 LSEL,A,LINE,,7,
773 NSLL,S,1,
774 DDELE,ALL,TEMP,
775 LSEL,ALL,
776 NSEL,ALL,
777 DK,11,TEMP,(WPTOP(TM_START)),,1,
778 DK,10,TEMP,(WPSID(TM_START)),,1,
779 DK, 9,TEMP,(WPBOT(TM_START)),,1,
780 ASEL,S,MAT,,14,
781 ESLA,S,
782 BFE,ALL,HGEN,,(FUEL(TM_START)),
783 ASEL,ALL,
784 ESEL,ALL,
785 TIMINT,OFF,
786 TIME,2e-6,
787 AUTOTS,ON,
788 KBC,0,

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789 SOLVE
790 /COM, *****
791 /COM,      Set time integration parameters
792 TIMINT,ON,
793 AUTOTS,ON,
794 /COM,      Time substep ranges from 10 sec to 1/4 loadstep
795 NSUBST,10,40,5,ON
796 /COM,      Begin Transient
797 /COM,      Apply loads and solve for 0 to .9 years
798 *DO,TM,TM_START,TME0,TM10
799     TIME,TM,
800     ASEL,S,MAT,,14,
801     ESLA,S,
802     BFE,ALL,HGEN,,(FUEL(TM)),
803     ASEL,ALL
804     ESEL,ALL
805     DK,11,TEMP,(WPTOP(TM)),,1,
806     DK,10,TEMP,(WPSID(TM)),,1,
807     DK, 9,TEMP,(WPBOT(TM)),,1,
808     SOLVE
809 *ENDDO
810 /COM,      Apply loads and solve for 1 to 9 years
811 *DO,TM,TME1,TME9,TM11
812     TIME,TM,
813     ASEL,S,MAT,,14,
814     ESLA,S,
815     BFE,ALL,HGEN,,(FUEL(TM)),
816     ASEL,ALL
817     ESEL,ALL
818     DK,11,TEMP,(WPTOP(TM)),,1,
819     DK,10,TEMP,(WPSID(TM)),,1,
820     DK, 9,TEMP,(WPBOT(TM)),,1,
821     SOLVE
822 *ENDDO
823 /COM,      Apply loads and solve for 10 to 90 years
824 *DO,TM,TME10,TME90,TM110
825     TIME,TM,
826     ASEL,S,MAT,,14,
827     ESLA,S,
828     BFE,ALL,HGEN,,(FUEL(TM)),
829     ASEL,ALL
830     ESEL,ALL
831     DK,11,TEMP,(WPTOP(TM)),,1,
832     DK,10,TEMP,(WPSID(TM)),,1,
833     DK, 9,TEMP,(WPBOT(TM)),,1,
834     SOLVE
835 *ENDDO
836 /COM,      Apply loads and solve for 100 to 1000 years
837 *DO,TM,TME100,TME1000,TM1100
838     TIME,TM,
839     ASEL,S,MAT,,14,
840     ESLA,S,
841     BFE,ALL,HGEN,,(FUEL(TM)),
842     ASEL,ALL
843     ESEL,ALL
844     DK,11,TEMP,(WPTOP(TM)),,1,
845     DK,10,TEMP,(WPSID(TM)),,1,
846     DK, 9,TEMP,(WPBOT(TM)),,1,
847     SOLVE
848 *ENDDO
849 FINISH
850 SAVE,
851 /COM, *****
852 /COM,      Create element contour plots of solution results
853 /COM,
854 /COM,      Sort through solution results for time of max temp.
855 /POST26,
856 NSOL,2,(NODE(0.0,0.0,0.0)),TEMP,,peakclad,
857 STORE,NEW,
858 *GET,TMTMAX,VARI,2,EXTREM,TMAX,

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859 FINISH
860 /POST1,
861 /COM,          Create temperature contour plots of WP at peak
862 /RESET
863 /TRIAD,OFF,
864 /NUM, 1,
865 /PNUM,MAT, 1,
866 /TYPE,HIDP,
867 /GLINE,,-1,
868 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
869 ESEL,U,MAT,,7,
870 SET,NEAR,,,,TMTMAX,
871 /TITLE, 21 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
872 /SHOW,solupk,grph,0,8,
873 /CONTOUR,1,128,AUTO,
874 PLNSOL,TEMP,
875 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
876 SET,NEAR,,,,TME10,
877 /TITLE, 21 PWR UCF/WP at 10 years
878 /SHOW,solu10,grph,0,8,
879 /CONTOUR,1,128,USER,
880 PLNSOL,TEMP,
881 SET,NEAR,,,,TME50,
882 /TITLE, 21 PWR UCF/WP at 50 years
883 /SHOW,solu50,grph,0,8,
884 /CONTOUR,1,128,USER,
885 PLNSOL,TEMP,
886 SET,NEAR,,,,TME100,
887 /TITLE, 21 PWR UCF/WP at 100 years
888 /SHOW,solu100,grph,0,8,
889 /CONTOUR,1,128,USER,
890 PLNSOL,TEMP,
891 ESEL,ALL,
892 FINISH
893 /COM,          *****
894 /COM,          Print time/temperature output at specific locations
895 /COM,          Save profile from center to edge
896 /COM,
897 /COM,          Variable Legend: A01i000
898 /COM,          c = center of assembly
899 /COM,          h = halfway between center and tube
900 /COM,          s = inside structural stainless tube layer
901 /COM,          t = stainless tube cladding
902 /COM,          g = tube guide
903 /COM,          i = inner barrier of DC
904 /COM,          o = outer barrier of DC
905 /COM,          ## = ID number of assembly (01 is center)
906 /COM,          i = side of assembly toward center of WP
907 /COM,          o = side of assembly toward edge of WP
908 /COM,          000 = profile center down
909 /COM,          045 = profile 45 deg down
910 /COM,          090 = profile center side
911 /COM,          135 = profile 45 deg up
912 /COM,          180 = profile center up
913 /POST26,
914 NUMVAR,30,
915 /COM,
916 /COM,          *****
917 /COM,          * Temperature Profile from center to bottom of WP (0 deg.) *
918 /COM,          *****
919 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,c01i000,
920 NSOL, 3,(NODE(0.0, (0.0-QCELL),0.0)),TEMP,,h01o000,
921 NSOL, 4,(NODE(0.0, (0.0-HCELL),0.0)),TEMP,,s01o000,
922 NSOL, 5,(NODE(0.0, (0.0-SCCELL),0.0)),TEMP,,t01o000,
923 NSOL, 6,(NODE(0.0, (0.0-SCCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o000,
924 NSOL, 7,(NODE(0.0, (SCCELL-(PITCH+TWALL)),0.0)),TEMP,,t06i000,
925 NSOL, 8,(NODE(0.0, (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s06i000,
926 NSOL, 9,(NODE(0.0, (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h06i000,
927 NSOL, 10,(NODE(0.0, ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c06i000,
928 NSOL, 11,(NODE(0.0, ((-1.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h06o000,

```

```

929 NSOL,12,(NODE(0.0,((-1.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s06o000,
930 NSOL,13,(NODE(0.0,(SCCELL-2.0*PITCH-TWALL),0.0)),TEMP,,t13i000,
931 NSOL,14,(NODE(0.0,(HCELL-2.0*PITCH-TWALL),0.0)),TEMP,,s13i000,
932 NSOL,15,(NODE(0.0,(QCELL-2.0*PITCH-TWALL),0.0)),TEMP,,h13i000,
933 NSOL,16,(NODE(0.0,(-2.0*PITCH-TWALL),0.0)),TEMP,,c13i000,
934 NSOL,17,(NODE(0.0,((-2.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h13o000,
935 NSOL,18,(NODE(0.0,((-2.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s13o000,
936 NSOL,19,(NODE(0.0,((-2.0*PITCH)-TWALL-SCCELL),0.0)),TEMP,,t13o000,
937 NSOL,20,(NODE(0.0,(OWALL+IWALL-DCRAD),0.0)),TEMP,,i13i000,
938 NSOL,21,(NODE(0.0,(OWALL-DCRAD),0.0)),TEMP,,i13o000,
939 NSOL,22,(NODE(0.0,(0.0-DCRAD),0.0)),TEMP,,o13o000,
940 PRVAR, 2, 3, 4, 5, 6, 7,
941 PRVAR, 8, 9,10,11,12,13,
942 PRVAR,14,15,16,17,18,19,
943 PRVAR,20,21,22,
944 /COM,
945 /COM, *****
946 /COM, * Temperature Profile from center to lower right (45 deg.) *
947 /COM, *****
948 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,c01i045,
949 NSOL, 3,(NODE( QCELL, (0.0-QCELL),0.0)),TEMP,,h01o045,
950 NSOL, 4,(NODE( HCELL, (0.0-HCELL),0.0)),TEMP,,s01o045,
951 NSOL, 5,(NODE( SCCELL, (0.0-SCCELL),0.0)),TEMP,,t01o045,
952 NSOL, 6,(NODE( (SCCELL+0.5*TWALL),(0.0-SCCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o045,
953 NSOL, 7,(NODE( (PITCH+TWALL-SCCELL), (SCCELL-(PITCH+TWALL)),0.0)),TEMP,,t08i045,
954 NSOL, 8,(NODE( (PITCH+TWALL-HCELL), (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s08i045,
955 NSOL, 9,(NODE( (PITCH+TWALL-QCELL), (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h08i045,
956 NSOL,10,(NODE( (1.0*PITCH+TWALL), ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c08i045,
957 NSOL,11,(NODE( (PITCH+TWALL+QCELL),(0.0-PITCH-TWALL-QCELL),0.0)),TEMP,,h08o045,
958 NSOL,12,(NODE( (PITCH+TWALL+HCELL),(0.0-PITCH-TWALL-HCELL),0.0)),TEMP,,s08o045,
959 NSOL,13,(NODE( GX24, (0.0-GX24),0.0)),TEMP,,g08i045,
960 NSOL,14,(NODE( GX25, (0.0-GX25),0.0)),TEMP,,g08o045,
961 NSOL,15,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i08i045,
962 NSOL,16,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i08o045,
963 NSOL,17,(NODE( DO45, (-1.0*DO45),0.0)),TEMP,,o08o045,
964 /COM, Add centers of assemblies 11 and 12
965 NSOL,18,(NODE( (2.0*PITCH+TWALL), (-1.0*PITCH-TWALL),0.0)),TEMP,,c11i045,
966 NSOL,19,(NODE( (PITCH+TWALL), (-2.0*PITCH-TWALL),0.0)),TEMP,,c12i045,
967 PRVAR, 2, 3, 4, 5, 6, 7,
968 PRVAR, 8, 9,10,11,12,13,
969 PRVAR,14,15,16,17,18,19,
970 /COM,
971 /COM, *****
972 /COM, * Temperature Profile from center to side of WP (90 deg.) *
973 /COM, *****
974 NSOL, 2,(NODE( 0.0,0.0,0.0)),TEMP,,c01i090,
975 NSOL, 3,(NODE( QCELL,0.0,0.0)),TEMP,,h01o090,
976 NSOL, 4,(NODE( HCELL,0.0,0.0)),TEMP,,s01o090,
977 NSOL, 5,(NODE( SCCELL,0.0,0.0)),TEMP,,t01o090,
978 NSOL, 6,(NODE( (SCCELL+0.5*TWALL),0.0,0.0)),TEMP,,ts1o090,
979 NSOL, 7,(NODE( (PITCH+TWALL-SCCELL),0.0,0.0)),TEMP,,t02i090,
980 NSOL, 8,(NODE( (PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s02i090,
981 NSOL, 9,(NODE( (PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h02i090,
982 NSOL,10,(NODE( (PITCH+TWALL),0.0,0.0)),TEMP,,c02i090,
983 NSOL,11,(NODE( (PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h02o090,
984 NSOL,12,(NODE( (PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s02o090,
985 NSOL,13,(NODE( (PITCH+TWALL+SCCELL),0.0,0.0)),TEMP,,t02i090,
986 NSOL,14,(NODE( (2.0*PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s04i090,
987 NSOL,15,(NODE( (2.0*PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h04i090,
988 NSOL,16,(NODE( (2.0*PITCH+TWALL),0.0,0.0)),TEMP,,c04i090,
989 NSOL,17,(NODE( (2.0*PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h04o090,
990 NSOL,18,(NODE( (2.0*PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s04o090,
991 NSOL,19,(NODE( (2.0*PITCH+TWALL+SCCELL),0.0,0.0)),TEMP,,t04o090,
992 NSOL,20,(NODE( (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
993 NSOL,21,(NODE( (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
994 NSOL,22,(NODE( DCRAD,0.0,0.0)),TEMP,,o04o090,
995 PRVAR, 2, 3, 4, 5, 6, 7,
996 PRVAR, 8, 9,10,11,12,13,
997 PRVAR,14,15,16,17,18,19,
998 PRVAR,20,21,22,

```



```

999 /COM,
1000 /COM, *****
1001 /COM, * Temperature Profile from center to upper right (135 deg.) *
1002 /COM, *****
1003 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,c01i135,
1004 NSOL, 3, (NODE( QCELL, QCELL, 0.0)), TEMP, ,h01o135,
1005 NSOL, 4, (NODE( HCELL, HCELL, 0.0)), TEMP, ,s01o135,
1006 NSOL, 5, (NODE( SCELL, SCELL, 0.0)), TEMP, ,t01o135,
1007 NSOL, 6, (NODE( (SCELL+0.5*TWALL), (SCELL+0.5*TWALL), 0.0)), TEMP, ,ts1o135,
1008 NSOL, 7, (NODE( (PITCH+TWALL-SCELL), (PITCH+TWALL-SCELL), 0.0)), TEMP, ,t07i135,
1009 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), (PITCH+TWALL-HCELL), 0.0)), TEMP, ,s07i135,
1010 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), (PITCH+TWALL-QCELL), 0.0)), TEMP, ,h07i135,
1011 NSOL, 10, (NODE( (PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c07i135,
1012 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), (PITCH+TWALL+QCELL), 0.0)), TEMP, ,h07o135,
1013 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), (PITCH+TWALL+HCELL), 0.0)), TEMP, ,s07o135,
1014 NSOL, 13, (NODE( GX24, GX24, 0.0)), TEMP, ,g07i135,
1015 NSOL, 14, (NODE( GX25, GX25, 0.0)), TEMP, ,g07o135,
1016 NSOL, 15, (NODE( DI45, DI45, 0.0)), TEMP, ,i07i135,
1017 NSOL, 16, (NODE( DM45, DM45, 0.0)), TEMP, ,i07o135,
1018 NSOL, 17, (NODE( DO45, DO45, 0.0)), TEMP, ,o07o135,
1019 /COM, Add centers of assemblies 9 and 10
1020 NSOL, 18, (NODE( (2.0*PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c09i135,
1021 NSOL, 19, (NODE( (PITCH+TWALL), (2.0*PITCH+TWALL), 0.0)), TEMP, ,c10i135,
1022 PRVAR, 2, 3, 4, 5, 6, 7,
1023 PRVAR, 8, 9, 10, 11, 12, 13,
1024 PRVAR, 14, 15, 16, 17, 18, 19,
1025 /COM,
1026 /COM, *****
1027 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1028 /COM, *****
1029 NSOL, 2, (NODE(0.0, 0.0, 0.0)), TEMP, ,c01i180,
1030 NSOL, 3, (NODE(0.0, QCELL, 0.0)), TEMP, ,h01o180,
1031 NSOL, 4, (NODE(0.0, HCELL, 0.0)), TEMP, ,s01o180,
1032 NSOL, 5, (NODE(0.0, SCELL, 0.0)), TEMP, ,t01o180,
1033 NSOL, 6, (NODE(0.0, (SCELL+0.5*TWALL), 0.0)), TEMP, ,ts5i180,
1034 NSOL, 7, (NODE(0.0, (PITCH+TWALL-SCELL), 0.0)), TEMP, ,t05i180,
1035 NSOL, 8, (NODE(0.0, (PITCH+TWALL-HCELL), 0.0)), TEMP, ,s05i180,
1036 NSOL, 9, (NODE(0.0, (PITCH+TWALL-QCELL), 0.0)), TEMP, ,h05i180,
1037 NSOL, 10, (NODE(0.0, (PITCH+TWALL), 0.0)), TEMP, ,c05i180,
1038 NSOL, 11, (NODE(0.0, (PITCH+TWALL+QCELL), 0.0)), TEMP, ,h05o180,
1039 NSOL, 12, (NODE(0.0, (PITCH+TWALL+HCELL), 0.0)), TEMP, ,s05o180,
1040 NSOL, 13, (NODE(0.0, (PITCH+TWALL+SCELL), 0.0)), TEMP, ,t05i180,
1041 NSOL, 14, (NODE(0.0, (2.0*PITCH+TWALL-HCELL), 0.0)), TEMP, ,s03i180,
1042 NSOL, 15, (NODE(0.0, (2.0*PITCH+TWALL-QCELL), 0.0)), TEMP, ,h03i180,
1043 NSOL, 16, (NODE(0.0, (2.0*PITCH+TWALL), 0.0)), TEMP, ,c03i180,
1044 NSOL, 17, (NODE(0.0, (2.0*PITCH+TWALL+QCELL), 0.0)), TEMP, ,h03o180,
1045 NSOL, 18, (NODE(0.0, (2.0*PITCH+TWALL+HCELL), 0.0)), TEMP, ,s03o180,
1046 NSOL, 19, (NODE(0.0, (2.0*PITCH+TWALL+SCELL), 0.0)), TEMP, ,t03o180,
1047 NSOL, 20, (NODE(0.0, (DCRAD-OWALL-IWALL), 0.0)), TEMP, ,i03i180,
1048 NSOL, 21, (NODE(0.0, (DCRAD-OWALL), 0.0)), TEMP, ,i03o180,
1049 NSOL, 22, (NODE(0.0, DCRAD, 0.0)), TEMP, ,o03o180,
1050 PRVAR, 2, 3, 4, 5, 6, 7,
1051 PRVAR, 8, 9, 10, 11, 12, 13,
1052 PRVAR, 14, 15, 16, 17, 18, 19,
1053 PRVAR, 20, 21, 22,
1054 FINISH
1055 /COM, *****
1056 /COM, End of batch input file
1057 /COM, *****
1058 /EXIT,
1059 /EOF

```

RUN SETUP PROCEDURE FROM FILE= /ansys50a/docu/start.ans

```

/INPUT FILE= /ansys50a/docu/start.ans LINE= 0
*****
ANSYS STARTUP FILE start.ans
*****

```

ABBREVIATION= K1 /pnum,kp ,1,

```

ABBREVIATION= K0      /pnum,kp ,0,
ABBREVIATION= L1      /pnum,line,1,
ABBREVIATION= L0      /pnum,line,0,
ABBREVIATION= A1      /pnum,area,1,
ABBREVIATION= A0      /pnum,area,0,
ABBREVIATION= V1      /pnum,volu,1,
ABBREVIATION= V0      /pnum,volu,0,
ABBREVIATION= N1      /pnum,node,1,
ABBREVIATION= N0      /pnum,node,0,
ABBREVIATION= E1      /pnum,elem,1,
ABBREVIATION= E0      /pnum,elem,0,
ABBREVIATION= M1      /pnum,mat ,1,
ABBREVIATION= M0      /pnum,mat ,0,
ABBREVIATION= R1      /pnum,real,1,
ABBREVIATION= R0      /pnum,real,0,
ABBREVIATION= T1      /pnum,type,1,
ABBREVIATION= T0      /pnum,type,0,
ABBREVIATION= C1      /number,1,
ABBREVIATION= C0      /number,0,
ABBREVIATION= INP      /input,,inp,
ABBREVIATION= X3D      /show,3d,
ABBREVIATION= X11      /show,x11,
ABBREVIATION= VEC      /show,,,1,
ABBREVIATION= RAS      /show,,,0,
ABBREVIATION= ON       /menu,on,
ABBREVIATION= OFF      /menu,off,
ABBREVIATION= NVP      /config,nvpag,512,
ABBREVIATION= QUIT      /exit,nosav,
XYZ TRIAD DISPLAY SET TO OFF

```

VIEW CONE ANGLE FOR WINDOW 1 25.00

```

*****
END start.ans
*****

```

To start ANSYS menu:

```

type:  x3d  for console
       x11  for X-term

```

```

type:  on

```

```
*****
*****
ANSYS REVISION 5.0A 6/10/1995
2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz
*****
```

```
*
* File name: ucf21w.inp
* 21 PWR UCF with Low T.L. Disposal Container
* Helium Fill Gas
*
* Material Property file: props01.dat
*
* SNF Conductivity file: pwr15e.parm
* 15x15 Mark-B4 PWR SNF Assembly
*
* SNF Heat Loads file: snf1048.dat
* SNF Type: 10 years old, 48086 MWd/MTU
*
* Surface Temp. file: c21w5a.parm
* 25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading)
* 5.0 m Diameter Drift with Concrete Invert
* Drift spacing = 45.0 m
* WP c/c spacing = 32.331 m
*
```

```
*****
Increase the number of database pages from 16 (256) to 32 Mb
```

```
NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512
Work space must also be increased (-m 64)
*****
```

```
TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
```

```
SI UNITS SPECIFIED
LENGTH = METERS(M)
MASS = KILOGRAMS(KG)
TIME = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT = AMPS
*****
```

Read in average effective conductivities from SNF model

```
*** NOTE *** CP= .610 TIME= 22:39:52
Restore ANSYS parameters from file= pwr15e.parm.
```

```
/INPUT FILE= pwr15e.parm LINE= 0
```

```
PRINTOUT RESUMED BY /GOP
Read in surface temps. from repository model
```

```
*** NOTE *** CP= .830 TIME= 22:39:53
Restore ANSYS parameters from file= c21w5a.parm.
```

```
/INPUT FILE= c21w5a.parm LINE= 0
```

```
PRINTOUT RESUMED BY /GOP
*****
```

Define Required Constants:

```
PARAMETER PI = 3.141593
```

```
Define UCF/waste package parameters
(UCF dimensions converted from inches/cm/mm to meters were requi
MIRAD = inner radius of UCF He Backfill shell (m) (NOT
MWALL = UCF He Backfill shell thickness (m) (NOT
DCRAD = disposal container outer radius (m)
OWALL = outer barrier thickness (m)
```

IWALL = inner barrier thickness (m)
 DCIRD = disposal container inner radius (m)

 GCORN = corner guide width (m)
 GWALL = basket guide thickness (m)
 GLEN1 = side guide 1/3 width (m) (NOT USED)
 GLENT = side guide total width (m) (NOT USED)

 HCELL = 1/2 of basket cell opening (m)
 SWALL = stainless tube thickness (m)
 TWALL = Aluminum thermal shunt thickness (m)
 AWALL = Al/boron tube thickness (m) (NOT USED)

 ACTVL = active fuel length
 PEAKF = assembly heat axial peaking factor

MIRAD=1363.6/1000.0/2.0
 MWALL=1.0000*2.54/100.0

PARAMETER DCRAD = .7645000

PARAMETER OWALL = .5000000E-01

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .6945000

PARAMETER GCORN = .2335000

PARAMETER GWALL = .9500000E-02
 GLEN1=9.6170*2.54/100.0
 GLENT=28.866*2.54/100.0

PARAMETER HCELL = .1117500

PARAMETER SWALL = .5000000E-02

PARAMETER TWALL = .1000000E-01
 AWALL=0.2500*2.54/100.0

PARAMETER ACTVL = 3.601720

PARAMETER PEAKF = 1.250000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)
 FUEL = volumetric heat production (W/m³) f(yrs)
 FVOLUME = assy_volume=cell_width^2*active_length

PITCH = basket cell outer width (m)
 QCELL = 1/4 of basket cell opening (m)
 SCELL = 1/2 of basket cell opening+SS wall(m)
 ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)

GX## = x coord. of basket guide or thermal shunt/shell c
 GY## = y coord. of basket guide or thermal shunt/shell c

MI45 = x coord. MIRAD at 45 deg. (NOT USED)
 MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
 DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
 DM45 = x coord. DCRAD-OWALL at 45 deg.
 DO45 = x coord. DCRAD at 45 deg.

ARRAY PARAMETER ASSY DELETED.

SET PARAMETER DIMENSIONS ON ASSY TYPE=TABLE DIMENSIONS= 101 1 1

SET PARAMETER DIMENSIONS ON FUEL TYPE=TABL DIMENSIONS= 101 1 1

PARAMETER FVOLUME = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500
ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .1167500

PARAMETER GY22 = .6846165

PARAMETER GX23 = .1267500

PARAMETER GY23 = .6828358

PARAMETER GX24 = .3602500

PARAMETER GY24 = .5937594

PARAMETER GX25 = .3697500

PARAMETER GY25 = .5878905

MI45=MIRAD/SQRT(2.0)
MO45=(MIRAD+MWALL)/SQRT(2.0)

PARAMETER DI45 = .4910857

PARAMETER DM45 = .5052278

PARAMETER DO45 = .5405831

Define Transient Time parameters based upon the following:

Note: 1 year = 3.15576e7 seconds

TM_START = start time (sec)

TMI* = time increment for solution (sec)

TME* = start and stop for time do-loops (sec)

TMTMAX = time of maximum cladding temperature

PARAMETER TM_START = 31.55760

PARAMETER TM10 = 3155760.

PARAMETER TM11 = .3155760E+08

PARAMETER TM110 = .3155760E+09

PARAMETER TM1100 = .3155760E+10

PARAMETER TM11000 = .3155760E+11

PARAMETER TME0 = .2840187E+08

PARAMETER TME1 = .3155763E+08

PARAMETER TME9 = .2840184E+09

PARAMETER TME10 = .3155760E+09

PARAMETER TME50 = .1577880E+10

PARAMETER TME90 = .2840184E+10

PARAMETER TME100 = .3155760E+10

PARAMETER TME1000 = .3155760E+11

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:54 JUN 13, 1995 CP= 1.760
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE 1 IS PLANE55 2-D THERMAL SOLID
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 TWO-DIMENSIONAL MODEL

ELEMENT TYPE 2 IS SOLID70 3-D THERMAL SOLID
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 THREE-DIMENSIONAL MODEL

ELEMENT TYPE 7 IS LINK32 2-D CONDUCTING BAR
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 THREE-DIMENSIONAL MODEL

ELEMENT TYPE 16 IS SHELL57 THERMAL SHELL
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 THREE-DIMENSIONAL MODEL

ELEMENT TYPE 17 IS LINK32 2-D CONDUCTING BAR
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 THREE-DIMENSIONAL MODEL

ELEMENT TYPE 18 IS MATRIX50 SUBSTRUCTURE MATRIX
 KEYOPT(1-12)= 1 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 THREE-DIMENSIONAL MODEL

ELEMENT TYPE 19 IS LINK31 RADIATION LINK
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 THREE-DIMENSIONAL MODEL

ELEMENT TYPE 27 IS LINK32 2-D CONDUCTING BAR
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
 THREE-DIMENSIONAL MODEL

File props01.dat describes material properties
 and thier reference numbers

READ IN MATERIAL PROPERTY LIBRARY FROM FILE= props01.dat

```

/INPUT FILE= props01.dat LINE=      0
*****
**      ANSYS 5.0 MPC MATERIAL PROPERTY TABLES      **
*****
**      Filename: props01.dat      **
**      Compiled by R. Bahney III on 1-30-95      **
*****

NUMBER MATERIAL          DESCRIPTION
1      Stainless Steel 316  Basket Structural Support
2      Incaloy 825         Inner Container (resistant)
3      A516 Mild Steel     Outer Container (allowance)
4      UO2 Pellet          SNF Uranium Oxide Pellet
5      Zircaloy 4          SNF Cladding
6      Oxidation Layer     Stably Oxidized Zircaloy Surface
7      Helium              Canister Fill Gas
8      Air                 Alternate Fill Gas
9      Nitrogen            Alternate Fill Gas
10     Argon               Alternate Fill Gas
11     Aluminum 6063       Thermal Conductor
12     Copper              Alternate Thermal Conductor
13     Aluminum-Boron      Aluminum Boron Criticality Matl

*****
**      Density:      DENS      (kg/m^3)      **
**      Emissivity    EMIS      **
**      Conductivity: KXX      (W/m/K)      **
**      Specific Heat: C      (J/kg/K)      **
*****

```

Define densities for all materials except gases

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
SLOC= 1 8000.000

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
SLOC= 1 8137.900

PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
SLOC= 1 8131.000

PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
SLOC= 1 10970.00

PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 6 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 11 NUM. POINTS= 1
SLOC= 1 2690.000

PROPERTY TABLE DENS MAT= 12 NUM. POINTS= 1
SLOC= 1 8933.000

PROPERTY TABLE DENS MAT= 13 NUM. POINTS= 1
SLOC= 1 2693.000

Define emissivities for all materials except gases

PROPERTY TABLE EMIS MAT= 1 NUM. POINTS= 1
SLOC= 1 .6000000

PROPERTY TABLE EMIS MAT= 2 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 3 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 4 NUM. POINTS= 1
SLOC= 1 .7900000

PROPERTY TABLE EMIS MAT= 5 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 6 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 11 NUM. POINTS= 1
SLOC= 1 .7000000E-01

PROPERTY TABLE EMIS MAT= 12 NUM. POINTS= 1
SLOC= 1 .5000000

PROPERTY TABLE EMIS MAT= 13 NUM. POINTS= 1
SLOC= 1 .7000000E-01

Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15

PROPERTY TABLE C MAT= 4 NUM. POINTS= 1
SLOC= 1 247.0000

PROPERTY TABLE C MAT= 5 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 6 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 7 NUM. POINTS= 1
SLOC= 1 5193.000

PROPERTY TABLE C MAT= 11 NUM. POINTS= 1
SLOC= 1 900.0000

Define K and C for materials 1, 3

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 21.11000 37.78000 65.56000
93.33000 121.1100 148.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 176.6700 204.4400 232.2200
260.0000 287.7800 315.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 343.3300 371.1100 398.8900
426.6700 454.4400 482.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
SLOC= 19 510.0000 537.7800 565.5600
593.3300 621.1100 648.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
SLOC= 25 676.6700 704.4400 732.2200
760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 6
SLOC= 1 13.33000 13.67000 14.19000 14.54000
15.06000 15.58000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 12

SLOC= 7	15.92000 17.83000	16.44000 18.17000	16.96000 17.31000
PROPERTY TABLE KXX MAT=	1 NUM. POINTS= 18		
SLOC= 13	18.52000 20.25000	19.04000 20.77000	19.38000 19.90000
PROPERTY TABLE KXX MAT=	1 NUM. POINTS= 24		
SLOC= 19	21.11000 22.67000	21.46000 23.02000	21.98000 22.33000
PROPERTY TABLE KXX MAT=	1 NUM. POINTS= 30		
SLOC= 25	23.54000 24.92000	23.88000 25.27000	24.23000 24.58000
PROPERTY TABLE C MAT=	1 NUM. POINTS= 6		
SLOC= 1	481.6800 509.9800	486.9200 520.2900	498.0900 499.3800
PROPERTY TABLE C MAT=	1 NUM. POINTS= 12		
SLOC= 7	521.0700 543.0200	527.3800 543.3100	536.9200 537.3400
PROPERTY TABLE C MAT=	1 NUM. POINTS= 18		
SLOC= 13	546.9100 557.2500	552.1400 565.1100	552.2600 557.2200
PROPERTY TABLE C MAT=	1 NUM. POINTS= 24		
SLOC= 19	565.0100 574.9200	564.9100 574.6800	572.3500 572.1400
PROPERTY TABLE C MAT=	1 NUM. POINTS= 30		
SLOC= 25	581.6400 585.9600	581.3000 588.3900	583.8600 586.3600
PROPERTY TABLE KXX MAT=	3 NUM. POINTS= 6		
SLOC= 1	40.84000 42.23000	41.36000 42.23000	41.88000 42.23000
PROPERTY TABLE KXX MAT=	3 NUM. POINTS= 12		
SLOC= 7	42.06000 40.50000	41.88000 39.98000	41.36000 41.02000
PROPERTY TABLE KXX MAT=	3 NUM. POINTS= 18		
SLOC= 13	39.29000 36.69000	38.77000 36.17000	38.08000 37.56000
PROPERTY TABLE KXX MAT=	3 NUM. POINTS= 24		
SLOC= 19	35.48000 32.36000	34.61000 31.50000	33.92000 33.23000
PROPERTY TABLE KXX MAT=	3 NUM. POINTS= 30		
SLOC= 25	30.29000 26.13000	28.90000 26.13000	27.35000 26.48000
PROPERTY TABLE C MAT=	3 NUM. POINTS= 6		
SLOC= 1	428.7200 486.0800	444.9500 495.6600	460.9400 476.8700
PROPERTY TABLE C MAT=	3 NUM. POINTS= 12		
SLOC= 7	506.0900 543.6300	517.0700 550.6200	525.6400 536.9900
PROPERTY TABLE C MAT=	3 NUM. POINTS= 18		
SLOC= 13	562.2100 611.3500	577.3200 629.0900	589.1000 600.5700
PROPERTY TABLE C MAT=	3 NUM. POINTS= 24		
SLOC= 19	645.3200 724.0700	665.1200 761.9500	682.0700 694.5200

PROPERTY TABLE C MAT= 3 NUM. POINTS= 30
 SLOC= 25 806.3100 888.6000 1095.040 1638.780
 808.6800 736.9000

Define K for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800 565.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 593.3300 621.1100 648.8900
 676.6700 704.4400 732.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 27 ***
 SLOC= 25 760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 6
 SLOC= 1 12.29000 12.63000 13.15000 13.67000
 14.02000 14.54000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 12
 SLOC= 7 14.88000 15.40000 15.75000 16.10000
 16.61000 16.96000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 18
 SLOC= 13 17.31000 17.65000 18.00000 18.52000
 18.86000 19.21000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 24
 SLOC= 19 19.73000 20.08000 20.42000 20.94000
 21.46000 21.98000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 27
 SLOC= 25 22.33000 23.02000 23.54000

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 17 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800

PROPERTY TABLE C MAT= 2 NUM. POINTS= 6
 SLOC= 1 460.6900 477.4200 501.0200 504.6500
 498.1200 520.4500

PROPERTY TABLE C MAT= 2 NUM. POINTS= 12
 SLOC= 7 536.8800 559.8500 576.8300 576.2100

581.6800 598.2000

PROPERTY TABLE C MAT= 2 NUM. POINTS= 17
 SLOC= 13 619.5800 636.7600 654.2000 678.2500
 696.2900

Define K for materials 4, 5, 6

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 .0000000E+00 10.00000 20.00000
 30.00000 40.00000 50.00000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 60.00000 70.00000 80.00000
 90.00000 100.0000 110.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 120.0000 130.0000 140.0000
 150.0000 160.0000 170.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 180.0000 190.0000 200.0000
 210.0000 220.0000 230.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
 SLOC= 25 240.0000 250.0000 260.0000
 270.0000 280.0000 290.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 36 ***
 SLOC= 31 300.0000 310.0000 320.0000
 330.0000 340.0000 350.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 42 ***
 SLOC= 37 360.0000 370.0000 380.0000
 390.0000 400.0000 410.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 48 ***
 SLOC= 43 420.0000 430.0000 440.0000
 450.0000 460.0000 470.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 50 ***
 SLOC= 48 480.0000 490.0000 500.0000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 6
 SLOC= 1 8.720000 8.540000 8.360000 8.190000
 8.030000 7.870000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 12
 SLOC= 7 7.720000 7.580000 7.440000 7.310000
 7.180000 7.050000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 18
 SLOC= 13 6.930000 6.820000 6.700000 6.600000
 6.490000 6.390000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 24
 SLOC= 19 6.290000 6.190000 6.100000 6.010000
 5.920000 5.840000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 30
 SLOC= 25 5.760000 5.680000 5.600000 5.520000
 5.450000 5.380000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 36
 SLOC= 31 5.310000 5.240000 5.180000 5.110000
 5.050000 4.990000

PROPERTY TABLE KXX	MAT=	4	NUM. POINTS= 42	
SLOC= 37	4.930000	4.870000	4.810000	4.760000
	4.700000	4.650000		

PROPERTY TABLE KXX	MAT=	4	NUM. POINTS= 48	
SLOC= 43	4.600000	4.550000	4.500000	4.450000
	4.400000	4.350000		

PROPERTY TABLE KXX	MAT=	4	NUM. POINTS= 50	
SLOC= 48	4.310000	4.270000	4.220000	

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 6	
SLOC= 1	12.29000	12.44000	12.58000	12.72000
	12.87000	13.01000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 12	
SLOC= 7	13.15000	13.28000	13.42000	13.55000
	13.69000	13.82000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 18	
SLOC= 13	13.95000	14.08000	14.21000	14.34000
	14.46000	14.59000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 24	
SLOC= 19	14.72000	14.84000	14.96000	15.09000
	15.21000	15.33000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 30	
SLOC= 25	15.45000	15.57000	15.69000	15.81000
	15.93000	16.05000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 36	
SLOC= 31	16.17000	16.29000	16.40000	16.52000
	16.64000	16.76000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 42	
SLOC= 37	16.88000	16.99000	17.11000	17.23000
	17.35000	17.46000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 48	
SLOC= 43	17.58000	17.70000	17.82000	17.94000
	18.06000	18.18000		

PROPERTY TABLE KXX	MAT=	5	NUM. POINTS= 50	
SLOC= 48	18.30000	18.42000	18.54000	

PROPERTY TABLE KXX	MAT=	6	NUM. POINTS= 6	
SLOC= 1	1.940000	1.940000	1.940000	1.940000
	1.940000	1.940000		

PROPERTY TABLE KXX	MAT=	6	NUM. POINTS= 12	
SLOC= 7	1.940000	1.950000	1.950000	1.950000
	1.950000	1.950000		

PROPERTY TABLE KXX	MAT=	6	NUM. POINTS= 18	
SLOC= 13	1.950000	1.950000	1.960000	1.960000
	1.960000	1.960000		

PROPERTY TABLE KXX	MAT=	6	NUM. POINTS= 24	
SLOC= 19	1.960000	1.970000	1.970000	1.970000
	1.970000	1.980000		

PROPERTY TABLE KXX	MAT=	6	NUM. POINTS= 30	
SLOC= 25	1.980000	1.980000	1.980000	1.990000
	1.990000	1.990000		

PROPERTY TABLE KXX	MAT=	6	NUM. POINTS= 36	
SLOC= 31	2.000000	2.000000	2.000000	2.010000
	2.010000	2.010000		

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 42
 SLOC= 37 2.020000 2.020000 2.020000 2.030000
 2.030000 2.030000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.040000 2.050000
 2.050000 2.060000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 50
 SLOC= 48 2.060000 2.060000 2.070000

Define p, K, C for materials 7, 8, 9, ~10

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -13.15000 6.850000 26.85000
 76.85000 126.8500 176.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 226.8500 276.8500 326.8500
 376.8500 426.8500 476.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 15 ***
 SLOC= 13 526.8500 626.8500 726.8500

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1875000 .1750000 .1625000 .1422000
 .1219000 .1097000

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 12
 SLOC= 7 .9750000E-01 .9060000E-01 .8360000E-01 .7670000E-01
 .6970000E-01 .6620000E-01

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 15
 SLOC= 13 .6270000E-01 .5580000E-01 .4880000E-01

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1370000 .1450000 .1520000 .1700000
 .1870000 .2040000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 12
 SLOC= 7 .2200000 .2360000 .2520000 .2640000
 .2780000 .2910000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 15
 SLOC= 13 .3040000 .3300000 .3540000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 6
 SLOC= 1 1.348000 1.254700 1.161400 .9950000
 .8711000 .7740000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 12
 SLOC= 7 .6964000 .6329000 .5804000 .5356000
 .4975000 .4643000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 15
 SLOC= 13 .4354000 .3868000 .3482000

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2500000E-01 .2600000E-01 .3000000E-01
 .3400000E-01 .3700000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12
 SLOC= 7 .4100000E-01 .4400000E-01 .4700000E-01 .5000000E-01
 .5200000E-01 .5500000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 15
 SLOC= 13 .5700000E-01 .6200000E-01 .6700000E-01

PROPERTY TABLE C MAT= 8 NUM. POINTS= 6				
SLOC= 1	1006.200	1006.600	1007.000	1009.000
	1014.000	1021.000		
PROPERTY TABLE C MAT= 8 NUM. POINTS= 12				
SLOC= 7	1030.000	1040.000	1051.000	1063.000
	1075.000	1087.000		
PROPERTY TABLE C MAT= 8 NUM. POINTS= 15				
SLOC= 13	1099.000	1121.000	1141.000	
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 6				
SLOC= 1	1.303700	1.213500	1.123300	.9625000
	.8425000	.7485000		
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12				
SLOC= 7	.6739000	.6124000	.5615000	.5214000
	.4812000	.4512000		
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 15				
SLOC= 13	.4211000	.3743000	.3368000	
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 6				
SLOC= 1	.2300000E-01	.2400000E-01	.2600000E-01	.2900000E-01
	.3300000E-01	.3600000E-01		
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12				
SLOC= 7	.3900000E-01	.4200000E-01	.4500000E-01	.4700000E-01
	.5000000E-01	.5200000E-01		
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 15				
SLOC= 13	.5500000E-01	.6000000E-01	.6500000E-01	
PROPERTY TABLE C MAT= 9 NUM. POINTS= 6				
SLOC= 1	1041.800	1041.400	1041.000	1042.000
	1045.000	1050.000		
PROPERTY TABLE C MAT= 9 NUM. POINTS= 12				
SLOC= 7	1056.000	1065.000	1075.000	1086.500
	1098.000	1159.000		
PROPERTY TABLE C MAT= 9 NUM. POINTS= 15				
SLOC= 13	1220.000	1146.000	1167.000	
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 6				
SLOC= 1	.1700000E-01	.1700000E-01	.1800000E-01	.2100000E-01
	.2300000E-01	.2500000E-01		
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12				
SLOC= 7	.2700000E-01	.2800000E-01	.3000000E-01	.3200000E-01
	.3400000E-01	.3600000E-01		
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 15				
SLOC= 13	.3700000E-01	.4100000E-01	.4400000E-01	

Define K and C for material 12

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC= 1	-73.15000	26.85000	126.8500
	326.8500	526.8500	726.8500

PROPERTY TABLE KXX MAT= 12 NUM. POINTS= 6				
SLOC= 1	413.0000	401.0000	393.0000	379.0000
	366.0000	352.0000		

PROPERTY TABLE C MAT= 12 NUM. POINTS= 6				
SLOC= 1	356.0000	385.0000	397.0000	417.0000

433.0000 451.0000

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***

SLOC=	1	23.00000	50.00000	100.0000
		150.0000	200.0000	

PROPERTY TABLE KXX MAT= 13 NUM. POINTS= 5

SLOC=	1	182.5600	190.1700	199.2200	202.9100
		203.7200			

PROPERTY TABLE C MAT= 13 NUM. POINTS= 5

SLOC=	1	868.0000	903.0000	946.0000	976.0000
		998.0000			

** End of Material Property List **

Read in single assembly heat loads

Calculate the volumetric heat generation

(Assembly time is in years, FUEL is in seconds)

/INPUT FILE= snf1048.dat LINE= 0

** History of SNF Assembly Heat Generation Rates **

** Output of PHIA, SCSI: B00000000-01717-1200-3000X Rev.00B **

**

** Executable File Name: PHIA00B.EXE **

** Output File Name: snf1048.dat **

** Execution Date: 02/24/95 **

** Start Age (years): 10.0 **

** Decay Period (years): 10000 **

** Enrichment (percent): 4.20 **

** Burnup (Mwd/MTU): 48086 **

** Assembly Type: PWR **

** SNF U Mass (MTU/assy): 0.464 **

**

** ASSY(#,1) is the SNF assembly heat in Watts. **

** ASSY(#,0) is the time post emplacement in years. **

PARAMETER ASSY(1,1) =	850.0100	849.6200	849.2300	848.8500
	848.4600	848.0800		

PARAMETER ASSY(7,1) =	847.6900	847.3100	846.9300	846.5400
	846.1600	844.2600		

PARAMETER ASSY(13,1) =	842.3700	840.5000	838.6300	836.7900
	834.9500	833.1300		

PARAMETER ASSY(19,1) =	831.3200	829.5200	827.7400	825.9600
	824.2000	822.4500		

PARAMETER ASSY(25,1) =	820.7200	818.9900	817.2800	815.5700
	813.8800	799.0100		

PARAMETER ASSY(31,1) =	785.0300	772.2000	760.0600	749.0400
	738.5700	729.5500		

PARAMETER ASSY(37,1) =	720.9500	710.2700	700.0700	691.8000
	683.8600	676.0300		

PARAMETER ASSY(43,1) =	668.5000	661.1300	654.0400	648.1900
	642.5500	580.1800		

PARAMETER ASSY(49,1) =	529.8600	484.5200	445.3600	410.5100
	380.7000	352.1900		

PARAMETER ASSY(55,1) =	327.7800 252.6500	305.8800 238.3100	286.2200	268.5700
PARAMETER ASSY(61,1) =	225.3500 185.0400	213.6600 130.6600	203.8500	193.7500
PARAMETER ASSY(67,1) =	105.0700 66.61000	90.10000 61.74000	80.32000	72.66000
PARAMETER ASSY(73,1) =	57.58000 44.98000	53.71000 42.50000	50.41000	47.54000
PARAMETER ASSY(79,1) =	40.31000 33.52000	38.35000 23.16000	36.59000	35.00000
PARAMETER ASSY(85,1) =	18.32000 12.84000	15.77000 12.37000	14.37000	13.53000
PARAMETER ASSY(91,1) =	11.96000 10.32000	11.47000 9.970000	11.04000	10.66000
PARAMETER ASSY(97,1) =	9.650000 8.610000	9.360000	9.090000	8.840000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01 .1000000	.7000000E-01 .1500000	.8000000E-01	.9000000E-01
PARAMETER ASSY(13,0) =	.2000000 .4000000	.2500000 .4500000	.3000000	.3500000
PARAMETER ASSY(19,0) =	.5000000 .7000000	.5500000 .7500000	.6000000	.6500000
PARAMETER ASSY(25,0) =	.8000000 1.000000	.8500000 1.500000	.9000000	.9500000
PARAMETER ASSY(31,0) =	2.000000 4.000000	2.500000 4.500000	3.000000	3.500000
PARAMETER ASSY(37,0) =	5.000000 7.000000	5.500000 7.500000	6.000000	6.500000
PARAMETER ASSY(43,0) =	8.000000 10.00000	8.500000 15.00000	9.000000	9.500000
PARAMETER ASSY(49,0) =	20.00000 40.00000	25.00000 45.00000	30.00000	35.00000
PARAMETER ASSY(55,0) =	50.00000 70.00000	55.00000 75.00000	60.00000	65.00000
PARAMETER ASSY(61,0) =	80.00000 100.0000	85.00000 150.0000	90.00000	95.00000
PARAMETER ASSY(67,0) =	200.0000 400.0000	250.0000 450.0000	300.0000	350.0000
PARAMETER ASSY(73,0) =	500.0000 700.0000	550.0000 750.0000	600.0000	650.0000
PARAMETER ASSY(79,0) =	800.0000 1000.000	850.0000 1500.000	900.0000	950.0000
PARAMETER ASSY(85,0) =	2000.000 4000.000	2500.000 4500.000	3000.000	3500.000

PARAMETER ASSY(91,0) = 5000.000 5500.000 6000.000 6500.000
7000.000 7500.000
PARAMETER ASSY(97,0) = 8000.000 8500.000 9000.000 9500.000
10000.00

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)
INPUT MATRIX= ASSY(1,0)
INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN
FUEL(1) = COPY ASSY(1)
SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000
VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity
Density: DENS (kg/m^3)
Conductivity: KXX (W/m/K)
Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
SLOC= 1 274.0000
Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1
SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2
SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Define new material 15 for low thermal loading
outer barrier of 70/30 Copper Nickel (C71500)
Density: DENS (kg/m^3)
Conductivity: KXX (W/m/K)
Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***

SLOC= 1 .000000E+00
Density (lb/in^3 converted to kg/m^3)

PROPERTY TABLE DENS MAT= 15 NUM. POINTS= 1

SLOC= 1 8940.640
Specific Heat (Btu/lb/F converted to J/kg/K)

PROPERTY TABLE C MAT= 15 NUM. POINTS= 1

SLOC= 1 376.7898
Conductivity (Btu/hr/ft/F converted to W/m/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***

SLOC= 1 20.00000 100.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 4 ***

SLOC= 3 200.0000 300.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC= 5 400.0000 500.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 8 ***

SLOC= 7 600.0000 700.0000

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 2

SLOC= 1 29.42190 29.24883

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 4

SLOC= 3 34.09479 38.59461

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 6

SLOC= 5 43.09443 48.11346

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 8

SLOC= 7 53.13249 58.15152

Construct geometry for Disposal Container

Define center and axis keypoints for waste package
Also, create placeholder keypoints and lines
(K's 1,2,3,4,5,6,7,8)
(L's 1,2,3,4)

KEYPOINT 1 X,Y,Z= .000000E+00 .000000E+00 .000000E+00 IN CSYS= 0

KEYPOINT 2 X,Y,Z= .000000E+00 .000000E+00 1.00000 IN CSYS= 0
 KEYPOINT 3 X,Y,Z= .000000E+00 .000000E+00 1.30000 IN CSYS= 0
 KEYPOINT 4 X,Y,Z= .000000E+00 .000000E+00 1.40000 IN CSYS= 0
 KEYPOINT 5 X,Y,Z= .000000E+00 .000000E+00 1.50000 IN CSYS= 0
 KEYPOINT 6 X,Y,Z= .000000E+00 .000000E+00 1.60000 IN CSYS= 0
 KEYPOINT 7 X,Y,Z= .000000E+00 .000000E+00 1.70000 IN CSYS= 0
 KEYPOINT 8 X,Y,Z= .000000E+00 .000000E+00 1.80000 IN CSYS= 0

LINE CONNECTS KEYPOINTS 3 4
 LINE NO.= 1 KP1= 3 TAN1= .0000 .0000 -1.0000
 KP2= 4 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 4 5
 LINE NO.= 2 KP1= 4 TAN1= .0000 .0000 -1.0000
 KP2= 5 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 5 6
 LINE NO.= 3 KP1= 5 TAN1= .0000 .0000 -1.0000
 KP2= 6 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 6 7
 LINE NO.= 4 KP1= 6 TAN1= .0000 .0000 -1.0000
 KP2= 7 TAN2= .0000 .0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT 9 X,Y,Z= .000000E+00 -.764500 .000000E+00 IN CSYS= 0
 KEYPOINT 10 X,Y,Z= .764500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 11 X,Y,Z= .000000E+00 .764500 .000000E+00 IN CSYS= 0
 KEYPOINT 12 X,Y,Z= .000000E+00 -.714500 .000000E+00 IN CSYS= 0
 KEYPOINT 13 X,Y,Z= .714500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 14 X,Y,Z= .000000E+00 .714500 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 10 13
 LINE NO.= 5 KP1= 10 TAN1= 1.0000 .0000 .0000
 KP2= 13 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .76450
 LINE NO.= 6 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .76450
 LINE NO.= 7 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 8 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 9 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT	15	X,Y,Z=	.000000E+00	.694500	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.116750	.684616	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.126750	.682836	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.360250	.593759	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.369750	.587890	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.587890	.369750	.000000E+00	IN CSYS= 0
KEYPOINT	21	X,Y,Z=	.593759	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.682836	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.684616	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.694500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.684616	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.682836	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.593759	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.587890	-.369750	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.369750	-.587890	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.360250	-.593759	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.126750	-.682836	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.116750	-.684616	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.000000E+00	-.694500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 15 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS	16 AND	15	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 13	KP1= 16	TAN1= .9858	-.1681	.0000
	KP2= 15	TAN2= -1.0000	.0000	.0000
ARC BETWEEN KEYPOINTS	17 AND	16	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 14	KP1= 17	TAN1= .9832	-.1825	.0000
	KP2= 16	TAN2= -.9858	.1681	.0000
ARC BETWEEN KEYPOINTS	18 AND	17	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 15	KP1= 18	TAN1= .8549	-.5187	.0000
	KP2= 17	TAN2= -.9832	.1825	.0000
ARC BETWEEN KEYPOINTS	19 AND	18	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 16	KP1= 19	TAN1= .8465	-.5324	.0000
	KP2= 18	TAN2= -.8549	.5187	.0000
ARC BETWEEN KEYPOINTS	20 AND	19	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 17	KP1= 20	TAN1= .5324	-.8465	.0000
	KP2= 19	TAN2= -.8465	.5324	.0000
ARC BETWEEN KEYPOINTS	21 AND	20	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 18	KP1= 21	TAN1= .5187	-.8549	.0000
	KP2= 20	TAN2= -.5324	.8465	.0000
ARC BETWEEN KEYPOINTS	22 AND	21	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 19	KP1= 22	TAN1= .1825	-.9832	.0000
	KP2= 21	TAN2= -.5187	.8549	.0000
ARC BETWEEN KEYPOINTS	23 AND	22	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 20	KP1= 23	TAN1= .1681	-.9858	.0000
	KP2= 22	TAN2= -.1825	.9832	.0000
ARC BETWEEN KEYPOINTS	24 AND	23	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 21	KP1= 24	TAN1= .0000	-1.0000	.0000
	KP2= 23	TAN2= -.1681	.9858	.0000
ARC BETWEEN KEYPOINTS	25 AND	24	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 22	KP1= 25	TAN1= -.1681	-.9858	.0000
	KP2= 24	TAN2= .0000	1.0000	.0000
ARC BETWEEN KEYPOINTS	26 AND	25	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 23	KP1= 26	TAN1= -.1825	-.9832	.0000
	KP2= 25	TAN2= .1681	.9858	.0000
ARC BETWEEN KEYPOINTS	27 AND	26	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 24	KP1= 27	TAN1= -.5187	-.8549	.0000
	KP2= 26	TAN2= .1825	.9832	.0000
ARC BETWEEN KEYPOINTS	28 AND	27	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 25	KP1= 28	TAN1= -.5324	-.8465	.0000
	KP2= 27	TAN2= .5187	.8549	.0000
ARC BETWEEN KEYPOINTS	29 AND	28	ORIENTATION KEYPOINT=	1
RADIUS= .69450				
LINE NO.= 26	KP1= 29	TAN1= -.8465	-.5324	.0000
	KP2= 28	TAN2= .5324	.8465	.0000

ARC BETWEEN KEYPOINTS 30 AND 29 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 27 KP1= 30 TAN1= -.8549 -.5187 .0000
 KP2= 29 TAN2= .8465 .5324 .0000

ARC BETWEEN KEYPOINTS 31 AND 30 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 28 KP1= 31 TAN1= -.9832 -.1825 .0000
 KP2= 30 TAN2= .8549 .5187 .0000

ARC BETWEEN KEYPOINTS 32 AND 31 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 29 KP1= 32 TAN1= -.9858 -.1681 .0000
 KP2= 31 TAN2= .9832 .1825 .0000

ARC BETWEEN KEYPOINTS 33 AND 32 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 30 KP1= 33 TAN1= -1.0000 .0000 .0000
 KP2= 32 TAN2= .9858 .1681 .0000

LINE CONNECTS KEYPOINTS 33 12
 LINE NO.= 31 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 13
 LINE NO.= 32 KP1= 24 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 21 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 9 TO 9 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 9)

AREA NUMBER = 3

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 22 TO 31 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 8 TO 8 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 8)

AREA NUMBER = 4

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 32 STEP 1

32 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides

(K's 34,35,36,37)

(L's 33,34,35,36,37,38,39,40,41,42)

(A's 5,6,7,8,9,10)

top guide

KEYPOINT 34 X,Y,Z= .360250 .360250 .000000E+00 IN CSYS= 0

KEYPOINT 35 X,Y,Z= .369750 .369750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 19 35

LINE NO.= 33 KP1= 19 TAN1= .0000 1.0000 .0000
KP2= 35 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 35 20

LINE NO.= 34 KP1= 35 TAN1= -1.0000 .0000 .0000
KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 21 34

LINE NO.= 35 KP1= 21 TAN1= 1.0000 .0000 .0000
KP2= 34 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 18

LINE NO.= 36 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 18 TAN2= .0000 1.0000 .0000

bottom guide

KEYPOINT 36 X,Y,Z= .369750 -.369750 .000000E+00 IN CSYS= 0

KEYPOINT 37 X,Y,Z= .360250 -.360250 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 28 36

LINE NO.= 37 KP1= 28 TAN1= 1.0000 .0000 .0000
KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 36 29

LINE NO.= 38 KP1= 36 TAN1= .0000 1.0000 .0000
KP2= 29 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 37

LINE NO.= 39 KP1= 30 TAN1= .0000 -1.0000 .0000
KP2= 37 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 37 27

LINE NO.= 40 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 27 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 35

LINE NO.= 41 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 35 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 37 36

LINE NO.= 42 KP1= 37 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES

LINE LIST = 17 33 34

(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 37 38

(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 6
Guide steel

DEFINE AREA BY LIST OF LINES

LINE LIST = 16 33 41 36
(TRAVERSED IN SAME DIRECTION AS LINE 16)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES

LINE LIST = 18 35 41 34
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 37 42 40
(TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 39 42 38
(TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 10

Define thermal shunts

(K's 38,39,40,41,42,43,44,45,46,47,48,49,50)

(51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)

(L's 43,44,45,46,47,48,49)

(50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)

(67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)

(84,85,86,87,88,89,90)

(A's 11 - 27)

top horizontal thermal shunt

KEYPOINT	38	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.000000E+00	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.116750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.126750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	45	X,Y,Z=	.360250	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	46	X,Y,Z=	.593750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	47	X,Y,Z=	.593750	.126750	.000000E+00	IN CSYS= 0
		bottom horizontal thermal shunt				
KEYPOINT	48	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.000000E+00	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.116750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	52	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0

KEYPOINT	53	X,Y,Z=	.126750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.360250	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	56	X,Y,Z=	.593750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.593750	-.126750	.000000E+00	IN CSYS= 0
		right vertical thermal shunt				
KEYPOINT	58	X,Y,Z=	.116750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.126750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	60	X,Y,Z=	.116750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.126750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.116750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.126750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.116750	-.593750	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.126750	-.593750	.000000E+00	IN CSYS= 0
		Lines; shunt widths, top, bottom, then vertical: (43-60)				

LINE CONNECTS KEYPOINTS	38	39			
LINE NO.= 43	KP1= 38	TAN1=	.0000	-1.0000	.0000
	KP2= 39	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	40	41			
LINE NO.= 44	KP1= 40	TAN1=	.0000	-1.0000	.0000
	KP2= 41	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	42	43			
LINE NO.= 45	KP1= 42	TAN1=	.0000	-1.0000	.0000
	KP2= 43	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	44	45			
LINE NO.= 46	KP1= 44	TAN1=	.0000	-1.0000	.0000
	KP2= 45	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	46	47			
LINE NO.= 47	KP1= 46	TAN1=	.0000	-1.0000	.0000
	KP2= 47	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	48	49			
LINE NO.= 48	KP1= 48	TAN1=	.0000	1.0000	.0000
	KP2= 49	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	50	51			
LINE NO.= 49	KP1= 50	TAN1=	.0000	1.0000	.0000
	KP2= 51	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	52	53			
LINE NO.= 50	KP1= 52	TAN1=	.0000	1.0000	.0000
	KP2= 53	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	54	55			
LINE NO.= 51	KP1= 54	TAN1=	.0000	1.0000	.0000
	KP2= 55	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	56	57			
LINE NO.= 52	KP1= 56	TAN1=	.0000	1.0000	.0000
	KP2= 57	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	58	59			
-------------------------	----	----	--	--	--

LINE NO.=	53	KP1=	58	TAN1=	-1.0000	.0000	.0000
		KP2=	59	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	60	61					
LINE NO.=	54	KP1=	60	TAN1=	-1.0000	.0000	.0000
		KP2=	61	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	41	43					
LINE NO.=	55	KP1=	41	TAN1=	-1.0000	.0000	.0000
		KP2=	43	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	40	42					
LINE NO.=	56	KP1=	40	TAN1=	-1.0000	.0000	.0000
		KP2=	42	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	50	52					
LINE NO.=	57	KP1=	50	TAN1=	-1.0000	.0000	.0000
		KP2=	52	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	51	53					
LINE NO.=	58	KP1=	51	TAN1=	-1.0000	.0000	.0000
		KP2=	53	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	62	63					
LINE NO.=	59	KP1=	62	TAN1=	-1.0000	.0000	.0000
		KP2=	63	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	64	65					
LINE NO.=	60	KP1=	64	TAN1=	-1.0000	.0000	.0000
		KP2=	65	TAN2=	1.0000	.0000	.0000

Lines; shunt edges, top, bottom, then vertical: (61-90)

LINE CONNECTS KEYPOINTS	39	41					
LINE NO.=	61	KP1=	39	TAN1=	-1.0000	.0000	.0000
		KP2=	41	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	40	38					
LINE NO.=	62	KP1=	40	TAN1=	1.0000	.0000	.0000
		KP2=	38	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	43	45					
LINE NO.=	63	KP1=	43	TAN1=	-1.0000	.0000	.0000
		KP2=	45	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	44	42					
LINE NO.=	64	KP1=	44	TAN1=	1.0000	.0000	.0000
		KP2=	42	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	45	47					
LINE NO.=	65	KP1=	45	TAN1=	-1.0000	.0000	.0000
		KP2=	47	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	46	44					
LINE NO.=	66	KP1=	46	TAN1=	1.0000	.0000	.0000
		KP2=	44	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	47	22					
LINE NO.=	67	KP1=	47	TAN1=	-1.0000	.0000	.0000
		KP2=	22	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	23	46					
LINE NO.=	68	KP1=	23	TAN1=	1.0000	.0000	.0000
		KP2=	46	TAN2=	-1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	48	50					
LINE NO.=	69	KP1=	48	TAN1=	-1.0000	.0000	.0000
		KP2=	50	TAN2=	1.0000	.0000	.0000

LINE CONNECTS KEYPOINTS	51	49					
LINE NO.=	70	KP1=	51	TAN1=	1.0000	.0000	.0000

	KP2=	49	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		52	54			
LINE NO.= 71	KP1=	52	TAN1=	-1.0000	.0000	.0000
	KP2=	54	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		55	53			
LINE NO.= 72	KP1=	55	TAN1=	1.0000	.0000	.0000
	KP2=	53	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		54	56			
LINE NO.= 73	KP1=	54	TAN1=	-1.0000	.0000	.0000
	KP2=	56	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		57	55			
LINE NO.= 74	KP1=	57	TAN1=	1.0000	.0000	.0000
	KP2=	55	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		56	25			
LINE NO.= 75	KP1=	56	TAN1=	-1.0000	.0000	.0000
	KP2=	25	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		26	57			
LINE NO.= 76	KP1=	26	TAN1=	1.0000	.0000	.0000
	KP2=	57	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		58	16			
LINE NO.= 77	KP1=	58	TAN1=	.0000	-1.0000	.0000
	KP2=	16	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		17	59			
LINE NO.= 78	KP1=	17	TAN1=	.0000	1.0000	.0000
	KP2=	59	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		60	58			
LINE NO.= 79	KP1=	60	TAN1=	.0000	-1.0000	.0000
	KP2=	58	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		59	61			
LINE NO.= 80	KP1=	59	TAN1=	.0000	1.0000	.0000
	KP2=	61	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		41	60			
LINE NO.= 81	KP1=	41	TAN1=	.0000	-1.0000	.0000
	KP2=	60	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		61	43			
LINE NO.= 82	KP1=	61	TAN1=	.0000	1.0000	.0000
	KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		50	40			
LINE NO.= 83	KP1=	50	TAN1=	.0000	-1.0000	.0000
	KP2=	40	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		42	52			
LINE NO.= 84	KP1=	42	TAN1=	.0000	1.0000	.0000
	KP2=	52	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		62	51			
LINE NO.= 85	KP1=	62	TAN1=	.0000	-1.0000	.0000
	KP2=	51	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		53	63			
LINE NO.= 86	KP1=	53	TAN1=	.0000	1.0000	.0000
	KP2=	63	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		64	62			
LINE NO.= 87	KP1=	64	TAN1=	.0000	-1.0000	.0000
	KP2=	62	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS 63 65
 LINE NO.= 88 KP1= 63 TAN1= .0000 1.0000 .0000
 KP2= 65 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 32 64
 LINE NO.= 89 KP1= 32 TAN1= .0000 -1.0000 .0000
 KP2= 64 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 65 31
 LINE NO.= 90 KP1= 65 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000

define areas for thermal shunts

DEFINE AREA BY LIST OF LINES
 LINE LIST = 43 61 44 62
 (TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES
 LINE LIST = 44 55 45 56
 (TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES
 LINE LIST = 45 63 46 64
 (TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES
 LINE LIST = 46 65 47 66
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES
 LINE LIST = 47 67 20 68
 (TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES
 LINE LIST = 48 69 49 70
 (TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES
 LINE LIST = 49 57 50 58
 (TRAVERSED IN SAME DIRECTION AS LINE 49)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES
 LINE LIST = 50 71 51 72
 (TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES
 LINE LIST = 51 73 52 74
 (TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES
 LINE LIST = 52 75 23 76
 (TRAVERSED IN SAME DIRECTION AS LINE 52)

```

AREA NUMBER =      20

DEFINE AREA BY LIST OF LINES
  LINE LIST =      14  77  53  78
  (TRAVERSED IN SAME DIRECTION AS LINE      14)

AREA NUMBER =      21

DEFINE AREA BY LIST OF LINES
  LINE LIST =      53  79  54  80
  (TRAVERSED IN SAME DIRECTION AS LINE      53)

AREA NUMBER =      22

DEFINE AREA BY LIST OF LINES
  LINE LIST =      54  81  55  82
  (TRAVERSED IN SAME DIRECTION AS LINE      54)

AREA NUMBER =      23

DEFINE AREA BY LIST OF LINES
  LINE LIST =      56  83  57  84
  (TRAVERSED IN SAME DIRECTION AS LINE      56)

AREA NUMBER =      24

DEFINE AREA BY LIST OF LINES
  LINE LIST =      58  85  59  86
  (TRAVERSED IN SAME DIRECTION AS LINE      58)

AREA NUMBER =      25

DEFINE AREA BY LIST OF LINES
  LINE LIST =      59  87  60  88
  (TRAVERSED IN SAME DIRECTION AS LINE      59)

AREA NUMBER =      26

DEFINE AREA BY LIST OF LINES
  LINE LIST =      60  89  29  90
  (TRAVERSED IN SAME DIRECTION AS LINE      60)

AREA NUMBER =      27
*****
  Define shell gaps at the exterior of the tube array
  (K's 66 - 67)
  (L's 91 - 99)
  (A's 28 - 34)

KEYPOINT    66  X,Y,Z=  .000000E+00  .593750  .000000E+00  IN CSYS=  0
KEYPOINT    67  X,Y,Z=  .000000E+00  -.593750  .000000E+00  IN CSYS=  0

LINE CONNECTS KEYPOINTS      15  66
  LINE NO.=   91  KP1=   15  TAN1=  .0000  1.0000  .0000
                KP2=   66  TAN2=  .0000 -1.0000  .0000

LINE CONNECTS KEYPOINTS      66  58
  LINE NO.=   92  KP1=   66  TAN1= -1.0000  .0000  .0000
                KP2=   58  TAN2=  1.0000  .0000  .0000

LINE CONNECTS KEYPOINTS      59  18
  LINE NO.=   93  KP1=   59  TAN1= -1.0000  .0000  .0000
                KP2=   18  TAN2=  1.0000  .0000  .0000

LINE CONNECTS KEYPOINTS      21  47
  LINE NO.=   94  KP1=   21  TAN1=  .0000  1.0000  .0000

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```

      KP2=   47 TAN2=   .0000 -1.0000   .0000
LINE CONNECTS KEYPOINTS   46   56
LINE NO.=   95 KP1=   46 TAN1=   .0000  1.0000   .0000
      KP2=   56 TAN2=   .0000 -1.0000   .0000

LINE CONNECTS KEYPOINTS   57   27
LINE NO.=   96 KP1=   57 TAN1=   .0000  1.0000   .0000
      KP2=   27 TAN2=   .0000 -1.0000   .0000

LINE CONNECTS KEYPOINTS   30   65
LINE NO.=   97 KP1=   30 TAN1=   1.0000   .0000   .0000
      KP2=   65 TAN2=  -1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS   64   67
LINE NO.=   98 KP1=   64 TAN1=   1.0000   .0000   .0000
      KP2=   67 TAN2=  -1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS   67   33
LINE NO.=   99 KP1=   67 TAN1=   .0000  1.0000   .0000
      KP2=   33 TAN2=   .0000 -1.0000   .0000

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   13  91  92  77
(TRAVERSED IN SAME DIRECTION AS LINE   13)

AREA NUMBER =   28

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   15  78  93
(TRAVERSED IN SAME DIRECTION AS LINE   15)

AREA NUMBER =   29

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   19  94  67
(TRAVERSED IN SAME DIRECTION AS LINE   19)

AREA NUMBER =   30

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   21  68  95  75  22
(TRAVERSED IN SAME DIRECTION AS LINE   21)

AREA NUMBER =   31

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   24  76  96
(TRAVERSED IN SAME DIRECTION AS LINE   24)

AREA NUMBER =   32

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   28  97  90
(TRAVERSED IN SAME DIRECTION AS LINE   28)

AREA NUMBER =   33

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =   30  89  98  99
(TRAVERSED IN SAME DIRECTION AS LINE   30)

AREA NUMBER =   34

```

```

*****
Define center half-tube
(K's 68-75)
(L's 100-110)
(A's 35-38)

```

KEYPOINT	68	X,Y,Z=	.000000E+00	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.111750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.000000E+00	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.111750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	72	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		70	68			
LINE NO.=	100	KP1=	70	TAN1=	.0000	-1.0000 .0000
		KP2=	68	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		70	74			
LINE NO.=	101	KP1=	70	TAN1=	.0000	1.0000 .0000
		KP2=	74	TAN2=	.0000	-1.0000 .0000

LINE CONNECTS KEYPOINTS		68	72			
LINE NO.=	102	KP1=	68	TAN1=	.0000	-1.0000 .0000
		KP2=	72	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		71	75			
LINE NO.=	103	KP1=	71	TAN1=	-.7071	.7071 .0000
		KP2=	75	TAN2=	.7071	-.7071 .0000

LINE CONNECTS KEYPOINTS		69	73			
LINE NO.=	104	KP1=	69	TAN1=	-.7071	-.7071 .0000
		KP2=	73	TAN2=	.7071	.7071 .0000

LINE CONNECTS KEYPOINTS		75	74			
LINE NO.=	105	KP1=	75	TAN1=	1.0000	.0000 .0000
		KP2=	74	TAN2=	-1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		71	70			
LINE NO.=	106	KP1=	71	TAN1=	1.0000	.0000 .0000
		KP2=	70	TAN2=	-1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		68	69			
LINE NO.=	107	KP1=	68	TAN1=	-1.0000	.0000 .0000
		KP2=	69	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		72	73			
LINE NO.=	108	KP1=	72	TAN1=	-1.0000	.0000 .0000
		KP2=	73	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		69	71			
LINE NO.=	109	KP1=	69	TAN1=	.0000	1.0000 .0000
		KP2=	71	TAN2=	.0000	-1.0000 .0000

LINE CONNECTS KEYPOINTS		73	75			
LINE NO.=	110	KP1=	73	TAN1=	.0000	1.0000 .0000
		KP2=	75	TAN2=	.0000	-1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 100 106 109 107
 (TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES
 LINE LIST = 101 105 103 106
 (TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 109 103 110 104
(TRAVERSED IN SAME DIRECTION AS LINE 109)

AREA NUMBER = 37

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 107 104 108
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 38

Define center full-tube

(K's 76 - 83)

(L's 111 - 122)

(A's 39 - 43)

KEYPOINT 76 X,Y,Z= .131750 .111750 .000000E+00 IN CSYS= 0

KEYPOINT 77 X,Y,Z= .355250 .111750 .000000E+00 IN CSYS= 0

KEYPOINT 78 X,Y,Z= .131750 -.111750 .000000E+00 IN CSYS= 0

KEYPOINT 79 X,Y,Z= .355250 -.111750 .000000E+00 IN CSYS= 0

KEYPOINT 80 X,Y,Z= .126750 .116750 .000000E+00 IN CSYS= 0

KEYPOINT 81 X,Y,Z= .360250 .116750 .000000E+00 IN CSYS= 0

KEYPOINT 82 X,Y,Z= .126750 -.116750 .000000E+00 IN CSYS= 0

KEYPOINT 83 X,Y,Z= .360250 -.116750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 78 82
LINE NO.= 111 KP1= 78 TAN1= .7071 .7071 .0000
KP2= 82 TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 76 80
LINE NO.= 112 KP1= 76 TAN1= .7071 -.7071 .0000
KP2= 80 TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS 79 83
LINE NO.= 113 KP1= 79 TAN1= -.7071 .7071 .0000
KP2= 83 TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS 77 81
LINE NO.= 114 KP1= 77 TAN1= -.7071 -.7071 .0000
KP2= 81 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 83 82
LINE NO.= 115 KP1= 83 TAN1= 1.0000 .0000 .0000
KP2= 82 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 79 78
LINE NO.= 116 KP1= 79 TAN1= 1.0000 .0000 .0000
KP2= 78 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 76 77
LINE NO.= 117 KP1= 76 TAN1= -1.0000 .0000 .0000
KP2= 77 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 80 81
LINE NO.= 118 KP1= 80 TAN1= -1.0000 .0000 .0000
KP2= 81 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 82 80
LINE NO.= 119 KP1= 82 TAN1= .0000 -1.0000 .0000
KP2= 80 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 78 76
 LINE NO.= 120 KP1= 78 TAN1= .0000 -1.0000 .0000
 KP2= 76 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 77 79
 LINE NO.= 121 KP1= 77 TAN1= .0000 1.0000 .0000
 KP2= 79 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 81 83
 LINE NO.= 122 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 83 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 120 116 121 117
 (TRAVERSED IN SAME DIRECTION AS LINE 120)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES
 LINE LIST = 119 111 120 112
 (TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES
 LINE LIST = 111 115 113 116
 (TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES
 LINE LIST = 121 113 122 114
 (TRAVERSED IN SAME DIRECTION AS LINE 121)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES
 LINE LIST = 112 117 114 118
 (TRAVERSED IN SAME DIRECTION AS LINE 112)

AREA NUMBER = 43

Set element shapes and sizes for tubes
 14x14 mesh in fuel with 2
 divisions per tube layer

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 115 TO 122 STEP 1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 109 TO 110 STEP 1

10 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 100 TO 100 STEP 1

11 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 14, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 105 TO 108 STEP 1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 101 TO 104 STEP 1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 111 TO 114 STEP 1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 122 STEP 1

122 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas

first fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 35 TO 35 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 120
MAXIMUM ELEMENT NUMBER = 98

GENERATE NODES AND ELEMENTS
IN AREAS 39 TO 39 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 345
MAXIMUM ELEMENT NUMBER = 294

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 36 TO 38 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 403
MAXIMUM ELEMENT NUMBER = 350

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 515
MAXIMUM ELEMENT NUMBER = 462

Copy tube mesh

center half tube above and below
(A's 44 - 47)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 693
 MAXIMUM ELEMENT NUMBER = 616
 (A's 48 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 871
 MAXIMUM ELEMENT NUMBER = 770
 (A's 52 - 55)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1049
 MAXIMUM ELEMENT NUMBER = 924
 (A's 56 - 59)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1227
 MAXIMUM ELEMENT NUMBER = 1078

center full tube side, above, and below
 (A's 60 - 64 = Side)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1564
 MAXIMUM ELEMENT NUMBER = 1386
 (A's 65 - 69 = up 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1901
 MAXIMUM ELEMENT NUMBER = 1694
 (A's 70 - 74 = up 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2238
 MAXIMUM ELEMENT NUMBER = 2002
 (A's 75 - 79 = down 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2575
 MAXIMUM ELEMENT NUMBER = 2310
 (A's 80 - 84 = down 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2912
 MAXIMUM ELEMENT NUMBER = 2618
 center full tube get corners
 (A's 85 - 89 = up corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3249
 MAXIMUM ELEMENT NUMBER = 2926
 (A's 90 - 94 = down corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3586
 MAXIMUM ELEMENT NUMBER = 3234

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 814	USED FOR NODES	1214
NODE 680	USED FOR NODES	992
NODE 822	USED FOR NODES	1216
NODE 682	USED FOR NODES	1000
NODE 821	USED FOR NODES	1217
NODE 683	USED FOR NODES	999
NODE 820	USED FOR NODES	1218
NODE 684	USED FOR NODES	998
NODE 819	USED FOR NODES	1219
NODE 685	USED FOR NODES	997
NODE 818	USED FOR NODES	1220
NODE 686	USED FOR NODES	996
NODE 687	USED FOR NODES	995
NODE 817	USED FOR NODES	1221
NODE 816	USED FOR NODES	1186
NODE 652	USED FOR NODES	994
NODE 1791	USED FOR NODES	2127
NODE 2464	USED FOR NODES	2802
NODE 1876	USED FOR NODES	2170
NODE 2507	USED FOR NODES	2887
NODE 1877	USED FOR NODES	2169
NODE 2506	USED FOR NODES	2888
NODE 1878	USED FOR NODES	2168
NODE 2505	USED FOR NODES	2889
NODE 1879	USED FOR NODES	2167
NODE 2504	USED FOR NODES	2890
NODE 1880	USED FOR NODES	2166
NODE 2503	USED FOR NODES	2891
NODE 1881	USED FOR NODES	2165
NODE 2502	USED FOR NODES	2892
NODE 1882	USED FOR NODES	2164
NODE 2501	USED FOR NODES	2893
NODE 1883	USED FOR NODES	2163
NODE 2500	USED FOR NODES	2894
NODE 1884	USED FOR NODES	2162
NODE 2499	USED FOR NODES	2895
NODE 1885	USED FOR NODES	2161
NODE 2498	USED FOR NODES	2896
NODE 1886	USED FOR NODES	2160
NODE 2497	USED FOR NODES	2897
NODE 1887	USED FOR NODES	2159
NODE 2496	USED FOR NODES	2898
NODE 1888	USED FOR NODES	2158
NODE 2495	USED FOR NODES	2899
NODE 2494	USED FOR NODES	2859 3475
NODE 2522	USED FOR NODES	3476
NODE 2535	USED FOR NODES	3477
NODE 2534	USED FOR NODES	3478

NODE	2533	USED FOR NODES	3479	
NODE	2532	USED FOR NODES	3480	
NODE	1820	USED FOR NODES	3138	
NODE	1848	USED FOR NODES	2157	3139
NODE	1861	USED FOR NODES	3140	
NODE	434	USED FOR NODES	1453	
NODE	462	USED FOR NODES	1454	
NODE	475	USED FOR NODES	1455	
NODE	2523	USED FOR NODES	3489	
NODE	2524	USED FOR NODES	3488	
NODE	2525	USED FOR NODES	3487	
NODE	2526	USED FOR NODES	3486	
NODE	2527	USED FOR NODES	3485	
NODE	2528	USED FOR NODES	3484	
NODE	2529	USED FOR NODES	3483	
NODE	2530	USED FOR NODES	3482	
NODE	2531	USED FOR NODES	3481	
NODE	474	USED FOR NODES	1456	
NODE	473	USED FOR NODES	1457	
NODE	472	USED FOR NODES	1458	
NODE	471	USED FOR NODES	1459	
NODE	470	USED FOR NODES	1460	
NODE	469	USED FOR NODES	1461	
NODE	468	USED FOR NODES	1462	
NODE	467	USED FOR NODES	1463	
NODE	463	USED FOR NODES	1467	
NODE	466	USED FOR NODES	1464	
NODE	464	USED FOR NODES	1466	
NODE	465	USED FOR NODES	1465	
NODE	1860	USED FOR NODES	3141	
NODE	1859	USED FOR NODES	3142	
NODE	1858	USED FOR NODES	3143	
NODE	1857	USED FOR NODES	3144	
NODE	1856	USED FOR NODES	3145	
NODE	1855	USED FOR NODES	3146	
NODE	1854	USED FOR NODES	3147	
NODE	1853	USED FOR NODES	3148	
NODE	1852	USED FOR NODES	3149	
NODE	1851	USED FOR NODES	3150	
NODE	1850	USED FOR NODES	3151	
NODE	1849	USED FOR NODES	3152	

*** WARNING *** CP= 12.040 TIME= 22:40:05
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 12.350 TIME= 22:40:06
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.360 TIME= 22:40:06
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.370 TIME= 22:40:06
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.370 TIME= 22:40:06
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.

(2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

KEYPOINT	34 USED FOR KEYPOINT(S)	131	138	161
KEYPOINT	37 USED FOR KEYPOINT(S)	146	155	168
KEYPOINT	38 USED FOR KEYPOINT(S)	72		
KEYPOINT	39 USED FOR KEYPOINT(S)	88		
KEYPOINT	40 USED FOR KEYPOINT(S)	73		
KEYPOINT	41 USED FOR KEYPOINT(S)	89		
KEYPOINT	42 USED FOR KEYPOINT(S)	80		
KEYPOINT	43 USED FOR KEYPOINT(S)	128		
KEYPOINT	44 USED FOR KEYPOINT(S)	81	121	
KEYPOINT	45 USED FOR KEYPOINT(S)	130	160	
KEYPOINT	46 USED FOR KEYPOINT(S)	123		
KEYPOINT	47 USED FOR KEYPOINT(S)	162		
KEYPOINT	48 USED FOR KEYPOINT(S)	74		
KEYPOINT	49 USED FOR KEYPOINT(S)	99		
KEYPOINT	50 USED FOR KEYPOINT(S)	75		
KEYPOINT	51 USED FOR KEYPOINT(S)	98		
KEYPOINT	52 USED FOR KEYPOINT(S)	82		
KEYPOINT	53 USED FOR KEYPOINT(S)	145		
KEYPOINT	54 USED FOR KEYPOINT(S)	83	120	
KEYPOINT	55 USED FOR KEYPOINT(S)	147	169	
KEYPOINT	56 USED FOR KEYPOINT(S)	122		
KEYPOINT	57 USED FOR KEYPOINT(S)	171		
KEYPOINT	58 USED FOR KEYPOINT(S)	106		
KEYPOINT	59 USED FOR KEYPOINT(S)	137		
KEYPOINT	60 USED FOR KEYPOINT(S)	90	105	
KEYPOINT	61 USED FOR KEYPOINT(S)	129	136	
KEYPOINT	62 USED FOR KEYPOINT(S)	97	114	
KEYPOINT	63 USED FOR KEYPOINT(S)	144	153	
KEYPOINT	64 USED FOR KEYPOINT(S)	113		
KEYPOINT	65 USED FOR KEYPOINT(S)	152		
KEYPOINT	66 USED FOR KEYPOINT(S)	107		
KEYPOINT	67 USED FOR KEYPOINT(S)	112		
KEYPOINT	91 USED FOR KEYPOINT(S)	104		
KEYPOINT	96 USED FOR KEYPOINT(S)	115		
LINE	61 USED FOR LINE(S)	128		

*** WARNING *** CP= 12.620 TIME= 22:40:06
Due to merge, line 61 is now meshed.
LINE 62 USED FOR LINE(S) 108

*** WARNING *** CP= 12.620 TIME= 22:40:06
Due to merge, line 62 is now meshed.
LINE 63 USED FOR LINE(S) 186

*** WARNING *** CP= 12.620 TIME= 22:40:06
Due to merge, line 63 is now meshed.
LINE 64 USED FOR LINE(S) 118

*** WARNING *** CP= 12.630 TIME= 22:40:06
Due to merge, line 64 is now meshed.
LINE 65 USED FOR LINE(S) 234

*** WARNING *** CP= 12.630 TIME= 22:40:06
Due to merge, line 65 is now meshed.
LINE 66 USED FOR LINE(S) 178

*** WARNING *** CP= 12.630 TIME= 22:40:06
Due to merge, line 66 is now meshed.
LINE 69 USED FOR LINE(S) 105

*** WARNING *** CP= 12.640 TIME= 22:40:06
Due to merge, line 69 is now meshed.
LINE 70 USED FOR LINE(S) 144

*** WARNING *** CP= 12.640 TIME= 22:40:06
Due to merge, line 70 is now meshed.
LINE 71 USED FOR LINE(S) 115

*** WARNING *** Due to merge, line 71 is now meshed. LINE 72 USED FOR LINE(S) 214	CP= 12.640 TIME= 22:40:06
*** WARNING *** Due to merge, line 72 is now meshed. LINE 73 USED FOR LINE(S) 174	CP= 12.640 TIME= 22:40:06
*** WARNING *** Due to merge, line 73 is now meshed. LINE 74 USED FOR LINE(S) 250	CP= 12.650 TIME= 22:40:06
*** WARNING *** Due to merge, line 74 is now meshed. LINE 79 USED FOR LINE(S) 152	CP= 12.650 TIME= 22:40:06
*** WARNING *** Due to merge, line 79 is now meshed. LINE 80 USED FOR LINE(S) 195	CP= 12.650 TIME= 22:40:06
*** WARNING *** Due to merge, line 80 is now meshed. LINE 81 USED FOR LINE(S) 130	CP= 12.660 TIME= 22:40:06
*** WARNING *** Due to merge, line 81 is now meshed. LINE 82 USED FOR LINE(S) 183	CP= 12.660 TIME= 22:40:06
*** WARNING *** Due to merge, line 82 is now meshed. LINE 83 USED FOR LINE(S) 110	CP= 12.660 TIME= 22:40:06
*** WARNING *** Due to merge, line 83 is now meshed. LINE 84 USED FOR LINE(S) 119	CP= 12.660 TIME= 22:40:06
*** WARNING *** Due to merge, line 84 is now meshed. LINE 85 USED FOR LINE(S) 141	CP= 12.670 TIME= 22:40:06
*** WARNING *** Due to merge, line 85 is now meshed. LINE 86 USED FOR LINE(S) 207	CP= 12.670 TIME= 22:40:06
*** WARNING *** Due to merge, line 86 is now meshed. LINE 87 USED FOR LINE(S) 163	CP= 12.670 TIME= 22:40:06
*** WARNING *** Due to merge, line 87 is now meshed. LINE 88 USED FOR LINE(S) 219	CP= 12.670 TIME= 22:40:06
*** WARNING *** Due to merge, line 88 is now meshed. LINE 92 USED FOR LINE(S) 155	CP= 12.680 TIME= 22:40:06
*** WARNING *** Due to merge, line 92 is now meshed. LINE 95 USED FOR LINE(S) 176	CP= 12.680 TIME= 22:40:06
*** WARNING *** Due to merge, line 95 is now meshed. LINE 98 USED FOR LINE(S) 161	CP= 12.680 TIME= 22:40:06
*** WARNING *** Due to merge, line 98 is now meshed. LINE 122 USED FOR LINE(S) 171 LINE 133 USED FOR LINE(S) 150 LINE 139 USED FOR LINE(S) 166 LINE 188 USED FOR LINE(S) 231	CP= 12.690 TIME= 22:40:06

LINE 190 USED FOR LINE(S) 198
LINE 210 USED FOR LINE(S) 226
LINE 212 USED FOR LINE(S) 243

Create mesh in tube guides, thermal shunts
Set mesh size for gaps.....

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 41 TO 60 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 20 STEP 2

24 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 29 STEP 2

28 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 61 TO 62 STEP 1

2 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 69 TO 70 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 91 TO 92 STEP 1

6 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 98 TO 99 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 22 STEP 1

10 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 77 TO 78 STEP 1

12 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 89 TO 90 STEP 1

14 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 67 TO 68 STEP 1

16 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 13 STEP 1

19 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 30 TO 30 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

*** WARNING *** CP= 12.830 TIME= 22:40:06
Some lines in the currently selected set were meshed and could not be altered.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 63 TO 66 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 71 TO 74 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 88 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 40 STEP 1

26 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 93 TO 97 STEP 1

31 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 15 TO 19 STEP 2

34 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 24 TO 28 STEP 2

37 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 14, SPACING RATIO = 1.000

*** WARNING *** CP= 12.870 TIME= 22:40:06
Some lines in the currently selected set were meshed and could not be altered.

MESH CORNER GUIDES

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 7 TO 10 IN STEPS OF 1

NUMBER OF AREAS MESHD = 4
MAXIMUM NODE NUMBER = 3758
MAXIMUM ELEMENT NUMBER = 3346
MESH THERMAL SHUNTS

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 27 IN STEPS OF 1

*** WARNING *** CP= 13.430 TIME= 22:40:07
Meshing of area 13 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.430 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3365 3378 3379 3392

*** WARNING *** CP= 13.480 TIME= 22:40:07
Meshing of area 14 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.480 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3393 3406 3407 3420

*** WARNING *** CP= 13.620 TIME= 22:40:07
Meshing of area 18 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.620 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3453 3454 3479 3480

*** WARNING *** CP= 13.670 TIME= 22:40:07
Meshing of area 19 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.670 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3481 3482 3507 3508

*** WARNING *** CP= 13.800 TIME= 22:40:07
Meshing of area 22 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.800 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3537 3550 3551 3564

*** WARNING *** CP= 13.850 TIME= 22:40:07
Meshing of area 23 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.850 TIME= 22:40:07
Worst aspect ratio is 43.3342857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3565 3578 3579 3592

*** WARNING *** CP= 13.890 TIME= 22:40:07
Meshing of area 24 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.900 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3593 3606 3607 3620

*** WARNING *** CP= 13.950 TIME= 22:40:07
Meshing of area 25 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.950 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3621 3634 3635 3648

*** WARNING *** CP= 14.000 TIME= 22:40:07
Meshing of area 26 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.000 TIME= 22:40:07
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3649 3662 3663 3676

NUMBER OF AREAS MESHED = 17
MAXIMUM NODE NUMBER = 3991
MAXIMUM ELEMENT NUMBER = 3690

Create mesh in UCF inner shell
(L's 105,108)

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 21 STEP 1

9 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 105 KP1= 15 KP2= 24

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 30 STEP 1

9 LINES (OF 219 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 108 KP1= 24 KP2= 33

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 31 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 3 TO 4 IN STEPS OF 1

*** WARNING *** CP= 15.000 TIME= 22:40:08
Meshing of area 3 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.000 TIME= 22:40:08
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3718	3719	3720	3721	3722	3723	3724	3725	3726	3727
3728	3729	3730	3731	3732	3733	3734	3735	3738	3763
3764	3765	3766	3767	3768	3769	3770	3771	3772	3773
3774	3799	3800	3801	3802	3803	3804	3805	3806	3807
3808	3809	3810	3837	3838	3839	3840	3841	3842	3843
3844	3845	3846	3847	3848	3849	3850	3851	3852	3853
3854	3855								

*** WARNING *** CP= 15.880 TIME= 22:40:09
Meshing of area 4 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.880 TIME= 22:40:09
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3910	3911	3912	3913	3914	3915	3916	3917	3918	3919
3920	3921	3922	3923	3924	3925	3926	3927	3930	3955
3956	3957	3958	3959	3960	3961	3962	3963	3964	3965
3966	3991	3992	3993	3994	3995	3996	3997	3998	3999
4000	4001	4002	4029	4030	4031	4032	4033	4034	4035
4036	4037	4038	4039	4040	4041	4042	4043	4044	4045
4046	4047								

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4483
MAXIMUM ELEMENT NUMBER = 4074

Delete concatenated lines
(L's freed up 105,108)

LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 64, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 15

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 1 TO 2 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4870
MAXIMUM ELEMENT NUMBER = 4458

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2190	USED FOR NODES	3598
NODE 2185	USED FOR NODES	3588
NODE 2871	USED FOR NODES	3734
NODE 2186	USED FOR NODES	3602
NODE 2188	USED FOR NODES	3600
NODE 2187	USED FOR NODES	3601
NODE 2189	USED FOR NODES	3599
NODE 2191	USED FOR NODES	3597
NODE 2831	USED FOR NODES	3717
NODE 2192	USED FOR NODES	3596
NODE 2193	USED FOR NODES	3595
NODE 2194	USED FOR NODES	3594
NODE 2198	USED FOR NODES	3590
NODE 2196	USED FOR NODES	3592
NODE 2197	USED FOR NODES	3591
NODE 2195	USED FOR NODES	3593
NODE 2860	USED FOR NODES	3745
NODE 2862	USED FOR NODES	3743
NODE 2863	USED FOR NODES	3742
NODE 2864	USED FOR NODES	3741
NODE 2865	USED FOR NODES	3740
NODE 2866	USED FOR NODES	3739
NODE 2867	USED FOR NODES	3738
NODE 2868	USED FOR NODES	3737
NODE 2861	USED FOR NODES	3744
NODE 2870	USED FOR NODES	3735
NODE 2872	USED FOR NODES	3733
NODE 2869	USED FOR NODES	3736
NODE 3224	USED FOR NODES	3659
NODE 3518	USED FOR NODES	3676
NODE 3225	USED FOR NODES	3658
NODE 3517	USED FOR NODES	3677
NODE 3226	USED FOR NODES	3657
NODE 3516	USED FOR NODES	3678
NODE 3227	USED FOR NODES	3656
NODE 3515	USED FOR NODES	3679
NODE 3228	USED FOR NODES	3655
NODE 3514	USED FOR NODES	3680
NODE 3229	USED FOR NODES	3654
NODE 3513	USED FOR NODES	3681
NODE 3230	USED FOR NODES	3653
NODE 3512	USED FOR NODES	3682
NODE 3231	USED FOR NODES	3652
NODE 3511	USED FOR NODES	3683

NODE 3232 USED FOR NODES 3651
 NODE 3510 USED FOR NODES 3684
 NODE 3233 USED FOR NODES 3650
 NODE 3509 USED FOR NODES 3685
 NODE 3234 USED FOR NODES 3649
 NODE 3508 USED FOR NODES 3686
 NODE 3235 USED FOR NODES 3648
 NODE 3507 USED FOR NODES 3687
 NODE 3236 USED FOR NODES 3647
 NODE 3506 USED FOR NODES 3688
 NODE 3505 USED FOR NODES 3674
 NODE 3196 USED FOR NODES 3631

*** WARNING *** CP= 20.020 TIME= 22:40:14
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 20.320 TIME= 22:40:14
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.320 TIME= 22:40:14
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.330 TIME= 22:40:14
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.330 TIME= 22:40:14
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
 IN AREAS 5 TO 6 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 5124
 MAXIMUM ELEMENT NUMBER = 4752

GENERATE NODES AND ELEMENTS
 IN AREAS 28 TO 34 IN STEPS OF 1
 ** AREA 29 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 30 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 31 MESHED WITH 110 QUADRILATERALS, 8 TRIANGLES **
 ** AREA 32 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 33 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **

NUMBER OF AREAS MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5252

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2213 USED FOR NODES 5167
 NODE 2844 USED FOR NODES 5451
 NODE 2214 USED FOR NODES 5168
 NODE 2843 USED FOR NODES 5450
 NODE 2215 USED FOR NODES 5169
 NODE 2842 USED FOR NODES 5449
 NODE 2216 USED FOR NODES 5170
 NODE 2841 USED FOR NODES 5448
 NODE 2217 USED FOR NODES 5171
 NODE 2840 USED FOR NODES 5447
 NODE 2218 USED FOR NODES 5172
 NODE 2839 USED FOR NODES 5446
 NODE 2219 USED FOR NODES 5173
 NODE 2838 USED FOR NODES 5445
 NODE 2220 USED FOR NODES 5174
 NODE 2837 USED FOR NODES 5444
 NODE 2221 USED FOR NODES 5175
 NODE 2836 USED FOR NODES 5443
 NODE 2835 USED FOR NODES 5442
 NODE 2222 USED FOR NODES 5176
 NODE 2223 USED FOR NODES 5177
 NODE 2834 USED FOR NODES 5441
 NODE 2224 USED FOR NODES 5178
 NODE 2833 USED FOR NODES 5440
 NODE 2225 USED FOR NODES 5179
 NODE 2832 USED FOR NODES 5439
 NODE 3205 USED FOR NODES 5235
 NODE 3197 USED FOR NODES 5227
 NODE 3199 USED FOR NODES 5229
 NODE 3200 USED FOR NODES 5230
 NODE 3539 USED FOR NODES 5384
 NODE 3542 USED FOR NODES 5387
 NODE 3201 USED FOR NODES 5231
 NODE 3540 USED FOR NODES 5385
 NODE 3202 USED FOR NODES 5232
 NODE 3203 USED FOR NODES 5233
 NODE 3537 USED FOR NODES 5382
 NODE 3204 USED FOR NODES 5234
 NODE 3209 USED FOR NODES 5239
 NODE 3534 USED FOR NODES 5379
 NODE 3545 USED FOR NODES 5390
 NODE 3207 USED FOR NODES 5237
 NODE 3541 USED FOR NODES 5386
 NODE 3208 USED FOR NODES 5238
 NODE 3544 USED FOR NODES 5389
 NODE 3536 USED FOR NODES 5381
 NODE 3538 USED FOR NODES 5383
 NODE 3546 USED FOR NODES 5391
 NODE 3198 USED FOR NODES 5228
 NODE 3206 USED FOR NODES 5236
 NODE 3535 USED FOR NODES 5380
 NODE 3543 USED FOR NODES 5388

*** WARNING *** CP= 25.720 TIME= 22:40:19
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 26.050 TIME= 22:40:20
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the

tolerance (2.335E-06).

*** WARNING *** CP= 26.060 TIME= 22:40:20
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 26.060 TIME= 22:40:20
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 26.070 TIME= 22:40:20
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 13 TO 21 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5308

GENERATE NODES AND ELEMENTS
 ON LINES 22 TO 30 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5364

GENERATE NODES AND ELEMENTS
 ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5392

GENERATE NODES AND ELEMENTS
 ON LINES 37 TO 38 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5420

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 92 TO 98 IN STEPS OF 1

NUMBER OF LINES MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5504

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 68 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5518

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 78 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5546

GENERATE NODES AND ELEMENTS
ON LINES 89 TO 90 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5560

***** ROUTINE COMPLETED ***** CP = 26.360

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

/SHOW SWITCH PLOTS TO FILE meshfull.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshfull.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4766 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

/SHOW SWITCH PLOTS TO FILE meshgap.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshgap.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

/SHOW SWITCH PLOTS TO FILE meshrad.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshrad.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:40:27 JUN 13, 1995 CP= 31.910
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

310 NODES (OF 5339 DEFINED) SELECTED FROM
308 SELECTED ELEMENTS BY NSLE COMMAND.

STEFAN-BOLTZMANN CONSTANT= .56700E-07

TWO DIMENSIONAL PLANE GEOMETRY (UNIT THICKNESS)

HIDDEN SURFACE (SLOW) METHOD
NUMBER OF ZONES= 800

WRITE RADIATION MATRIX TO FILE= spaces.sub

*** WARNING *** CP= 32.170 TIME= 22:40:27
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation losses.

NUMBER OF ELEMENTS= 308 NUMBER OF NODES= 310

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 46.770

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:40:42 JUN 13, 1995 CP= 46.770
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE SET TO 18

SUPERELEMENT 5561 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 5561

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 5561
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

29 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 46.820 TIME= 22:40:42
Nodes cannot be cleared from line 13 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.820 TIME= 22:40:42
Nodes cannot be cleared from line 15 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.830 TIME= 22:40:42
Nodes cannot be cleared from line 17 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.830 TIME= 22:40:42
Nodes cannot be cleared from line 19 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.840 TIME= 22:40:42
Nodes cannot be cleared from line 21 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.840 TIME= 22:40:42
Nodes cannot be cleared from line 22 because area 31 is meshed. Only

elements are deleted.

*** NOTE *** CP= 46.850 TIME= 22:40:42
Nodes cannot be cleared from line 24 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.850 TIME= 22:40:42
Nodes cannot be cleared from line 26 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.860 TIME= 22:40:42
Nodes cannot be cleared from line 28 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.860 TIME= 22:40:42
Nodes cannot be cleared from line 30 because area 34 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.870 TIME= 22:40:42
Nodes cannot be cleared from line 33 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.870 TIME= 22:40:42
Nodes cannot be cleared from line 34 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.880 TIME= 22:40:42
Nodes cannot be cleared from line 37 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.880 TIME= 22:40:42
Nodes cannot be cleared from line 38 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.890 TIME= 22:40:42
Nodes cannot be cleared from line 67 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.890 TIME= 22:40:42
Nodes cannot be cleared from line 68 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 22:40:42
Nodes cannot be cleared from line 75 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.900 TIME= 22:40:42
Nodes cannot be cleared from line 76 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.910 TIME= 22:40:42
Nodes cannot be cleared from line 77 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.910 TIME= 22:40:42
Nodes cannot be cleared from line 78 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.910 TIME= 22:40:42
Nodes cannot be cleared from line 89 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.920 TIME= 22:40:42
Nodes cannot be cleared from line 90 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.920 TIME= 22:40:42
Nodes cannot be cleared from line 92 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.920 TIME= 22:40:42
Nodes cannot be cleared from line 93 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.930 TIME= 22:40:42
Nodes cannot be cleared from line 94 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.940 TIME= 22:40:42
Nodes cannot be cleared from line 95 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.940 TIME= 22:40:42
Nodes cannot be cleared from line 96 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.950 TIME= 22:40:42
Nodes cannot be cleared from line 97 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.950 TIME= 22:40:42
Nodes cannot be cleared from line 98 because area 34 is meshed. Only
elements are deleted.

CLEARED 29 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 46.960

Set solution parameters and apply B.C.'s

Solve steady-state for initial conditions
with WP surface equal to drift ambient
temperature from repository model.

***** ANSYS SOLUTION ROUTINE *****

PERFORM A TRANSIENT ANALYSIS
THIS WILL BE A NEW ANALYSIS

USE THE DEFAULT NEWTON-RAPHSON OPTION FOR ALL DOFS
AND USE THE DEFAULT ADAPTIVE DESCENT OPTION

*** NOTE *** CP= 46.960 TIME= 22:40:43
Damping (if present) may be ignored only in reduced transient analyses.

PERFORM A FULL TRANSIENT ANALYSIS

TEMPERATURE OFFSET FROM ABSOLUTE ZERO= 273.150

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)

RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 5538 BY 1
REAL= 26.1400304 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .10000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

*** NOTE *** CP= 48.360 TIME= 22:40:44
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:40:44 JUN 13, 1995 CP= 48.360
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
DEGREES OF FREEDOM.TEMP
ANALYSIS TYPE.TRANSIENT
SOLUTION METHOD.FULL

OFFSET TEMPERATURE FROM ABSOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 49.400 TIME= 22:40:46
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 49.890 TIME= 22:40:46
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER. 1
 TIME AT END OF THE LOAD STEP.10000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 4108.7

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .33488	IXX = 641.0	IXX = 641.0
YC = .13217E-10	IYY = 641.0	IYY = 180.3
ZC = .00000E+00	IZZ = 1282.	IZZ = 821.2
	IXY = -.1213E-07	IXY = .6051E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	4108.66

Range of element maximum matrix coefficients in global coordinates
 Maximum= 2640.26464 at element 3393.
 Minimum= 1.261859514E-09 at element 5561.

*** WARNING *** CP= 70.060 TIME= 22:41:08
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	13.150	.003
18	1	MATRIX50	.130	.130

Time at end of element matrix formulation CP= 70.07.
 HT FLOW CONVERGENCE VALUE= 9671. CRITERION= 9.671

Estimated number of active DOF= 5210.

Maximum wavefront= 384.

Time at end of matrix triangularization CP= 95.7.

Equation solver maximum pivot= 5623.89496 at node 3957 TEMP.

Equation solver minimum pivot= 0.172720498 at node 5125 TEMP.

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 191.7

HT FLOW CONVERGENCE VALUE= 73.53 CRITERION= .3497

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -31.33

HT FLOW CONVERGENCE VALUE= 5.980 CRITERION= .3443

EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.879

HT FLOW CONVERGENCE VALUE= .3130 CRITERION= .3424 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	7.290	.001
18	1	MATRIX50	.160	.160

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	1.080	.000
18	1	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 3

*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS

ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 5210

R.M.S. WAVEFRONT SIZE = 176.6

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096

2.594 MB WRITTEN ON ELEMENT MATRIX FILE: ucf21w.emat

2.359 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf21w.esav

6.938 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf21w.tri

.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf21w.dsub

2.859 MB WRITTEN ON RESULTS FILE: ucf21w.rth

Solve steady-state for initial conditions

with WP surface temperatures from repository

steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)

RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM

2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES

RANGE 1 TO 5538 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 129

ALL SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11

LOAD LABELS = TEMP
VALUES = 68.768 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP
VALUES = 68.821 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 68.864 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .20000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** WARNING *** CP= 214.460 TIME= 22:43:37
This load step will be a static (steady-state) step.

*** NOTE *** CP= 214.960 TIME= 22:43:38
The step data was checked and warning messages were found.
Please review output or errors file (ucf21w.err) for these warning
messages.

*** NOTE *** CP= 214.960 TIME= 22:43:38
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1
***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:43:38 JUN 13, 1995 CP= 214.960
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

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LOAD STEP NUMBER. . . . . 2
TIME AT END OF THE LOAD STEP. . . . . .20000E-05
AUTOMATIC TIME STEPPING . . . . . ON
    INITIAL NUMBER OF SUBSTEPS . . . . . 0
    MAXIMUM NUMBER OF SUBSTEPS . . . . . 0
    MINIMUM NUMBER OF SUBSTEPS . . . . . 1
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . . 25
STEP CHANGE BOUNDARY CONDITIONS . . . . . NO
TRANSIENT (INERTIA) EFFECTS . . . . . OFF
TERMINATE ANALYSIS IF NOT CONVERGED . . . . . YES (EXIT)
CONVERGENCE CONTROLS. . . . . USE DEFAULTS
PRINT OUTPUT CONTROLS . . . . . NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . . ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP

```

```

HT FLOW CONVERGENCE VALUE= .1578E+05  CRITERION= 15.79
EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= 42.87
HT FLOW CONVERGENCE VALUE= 36.53  CRITERION= .3392
EQUIL ITER 2 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -9.216
HT FLOW CONVERGENCE VALUE= 2.633  CRITERION= .3371
EQUIL ITER 3 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9022
HT FLOW CONVERGENCE VALUE= .1189  CRITERION= .3364  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 2 SUBSTEP 1 COMPLETED.  CUM ITER = 6
*** TIME = .200000E-05  TIME INC = .100000E-05
*****
Set time integration parameters

```

INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

USE AUTOMATIC TIME STEPPING THIS LOAD STEP
Time substep ranges from 10 sec to 1/4 loadstep

```

USE      10 SUBSTEPS INITIALLY THIS LOAD STEP FOR ALL DOFS
FOR AUTOMATIC TIME STEPPING:
  USE      40 SUBSTEPS AS A MAXIMUM
  USE      5 SUBSTEPS AS A MINIMUM
  USE THE FINAL TIME STEP SIZE OF THE PREVIOUS LOAD STEP
    AS THE STARTING TIME STEP SIZE.
  Begin transient
    Apply loads and solve for 0 to .9 years

```

```
*DO LOOP ON PARAMETER= TM      FROM 31.558      TO .28402E+08 BY .31558E+07
```

TIME= 31.558

```
SELECT      FOR ITEM=MAT  COMPONENT=
IN RANGE    14 TO        14 STEP      1
```

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION				1
5905.66823	.000000000E+00	.000000000E+00	.000000000E+00	

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

LOAD LABELS = TEMP
VALUES = 68.768 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP
VALUES = 68.821 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 68.864 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 341.870 TIME= 22:45:47
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:45:47 JUN 13, 1995 CP= 341.880
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 3
TIME AT END OF THE LOAD STEP. 31.558
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1189 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1712E-03
HT FLOW CONVERGENCE VALUE= .3754E-05 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1845 OSCILLATION LIMIT = .1456
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2203 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2000E-03
HT FLOW CONVERGENCE VALUE= .5674E-05 CRITERION= .3364 <<< CONVERGED

```

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .9746E-01 OSCILLATION LIMIT = .7689E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .2110 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3187E-03
HT FLOW CONVERGENCE VALUE= .1157E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 9
*** TIME = 3.94470 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .2480E-01 OSCILLATION LIMIT = .5869E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .1993 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871E-03
HT FLOW CONVERGENCE VALUE= .2583E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 10
*** TIME = 10.2562 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .4973E-02 OSCILLATION LIMIT = .3139E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1956 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9373E-04
HT FLOW CONVERGENCE VALUE= .2326E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 11
*** TIME = 16.5677 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .2183E-02 OSCILLATION LIMIT = .1378E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1914 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9354E-04
HT FLOW CONVERGENCE VALUE= .2249E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 12
*** TIME = 22.8793 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1793E-02 OSCILLATION LIMIT = .1132E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1902 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9336E-04
HT FLOW CONVERGENCE VALUE= .2210E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 13
*** TIME = 29.1908 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1604E-02 OSCILLATION LIMIT = .1013E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .1870 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3496E-04
HT FLOW CONVERGENCE VALUE= .8213E-05 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 8 COMPLETED. CUM ITER = 14
*** TIME = 31.5576 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .1525E-02 OSCILLATION LIMIT = .3610E-02

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:54:27 JUN 13, 1995 CP= 854.500
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 239.1 CRITERION= .4127
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7036
 HT FLOW CONVERGENCE VALUE= .4472 CRITERION= .3348
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6993E-01
 HT FLOW CONVERGENCE VALUE= .1980E-01 CRITERION= .3349 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 16
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1075E-04 OSCILLATION LIMIT = .8483
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 239.4 CRITERION= .4116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7072
 HT FLOW CONVERGENCE VALUE= .5680 CRITERION= .3354
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9112E-01
 HT FLOW CONVERGENCE VALUE= .2138E-01 CRITERION= .3354 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5328E-06 OSCILLATION LIMIT = .4204E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 717.1 CRITERION= .7917
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.111
 HT FLOW CONVERGENCE VALUE= 1.623 CRITERION= .3344
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3250
 HT FLOW CONVERGENCE VALUE= .8814E-01 CRITERION= .3345 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .1216E-05 OSCILLATION LIMIT = .2878
 *** AUTO TIME STEP: NEXT TIME INC = .41124E+06 INCREASED (FACTOR = 1.7375)

HT FLOW CONVERGENCE VALUE= 1246. CRITERION= 1.290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.667
 HT FLOW CONVERGENCE VALUE= 2.456 CRITERION= .3344
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6109
 HT FLOW CONVERGENCE VALUE= .1643 CRITERION= .3344 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
 *** TIME = 805745. TIME INC = 411244.
 *** RESPONSE EIGENVALUE = .9569E-06 OSCILLATION LIMIT = .3935
 *** AUTO STEP TIME: NEXT TIME INC = .41124E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1246. CRITERION= 1.290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.667
 HT FLOW CONVERGENCE VALUE= 2.513 CRITERION= .3332
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6013
 HT FLOW CONVERGENCE VALUE= .1665 CRITERION= .3332 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 24
 *** TIME = .121699E+07 TIME INC = 411244.
 *** RESPONSE EIGENVALUE = .1034E-05 OSCILLATION LIMIT = .4253
 *** AUTO STEP TIME: NEXT TIME INC = .41124E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1246. CRITERION= 1.289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.667
 HT FLOW CONVERGENCE VALUE= 2.713 CRITERION= .3331
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6102
 HT FLOW CONVERGENCE VALUE= .1732 CRITERION= .3331 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 26
 *** TIME = .162823E+07 TIME INC = 411244.
 *** RESPONSE EIGENVALUE = .9414E-06 OSCILLATION LIMIT = .3872
 *** AUTO STEP TIME: NEXT TIME INC = .41124E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1245. CRITERION= 1.289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.667
 HT FLOW CONVERGENCE VALUE= 2.715 CRITERION= .3319

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6079
 HT FLOW CONVERGENCE VALUE= .1755 CRITERION= .3319 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 28
 *** TIME = .203948E+07 TIME INC = 411244.
 *** RESPONSE EIGENVALUE = .1051E-05 OSCILLATION LIMIT = .4323
 *** AUTO STEP TIME: NEXT TIME INC = .41124E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1245. CRITERION= 1.288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.667
 HT FLOW CONVERGENCE VALUE= 2.818 CRITERION= .3318
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6141
 HT FLOW CONVERGENCE VALUE= .1779 CRITERION= .3318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 30
 *** TIME = .245072E+07 TIME INC = 411244.
 *** RESPONSE EIGENVALUE = .9555E-06 OSCILLATION LIMIT = .3930
 *** AUTO STEP TIME: NEXT TIME INC = .41124E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1244. CRITERION= 1.288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.667
 HT FLOW CONVERGENCE VALUE= 2.772 CRITERION= .3306
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6107
 HT FLOW CONVERGENCE VALUE= .1799 CRITERION= .3306 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 9 COMPLETED. CUM ITER = 32
 *** TIME = .286196E+07 TIME INC = 411244.
 *** RESPONSE EIGENVALUE = .1037E-05 OSCILLATION LIMIT = .4264
 *** AUTO TIME STEP: NEXT TIME INC = .29383E+06 DECREASED (FACTOR = .7145)

HT FLOW CONVERGENCE VALUE= 889.2 CRITERION= .9485
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.620
 HT FLOW CONVERGENCE VALUE= 1.933 CRITERION= .3306
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210
 HT FLOW CONVERGENCE VALUE= .1188 CRITERION= .3307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 10 COMPLETED. CUM ITER = 34
 *** TIME = .315579E+07 TIME INC = 293827.
 *** RESPONSE EIGENVALUE = .8985E-06 OSCILLATION LIMIT = .2640

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 23:10:23 JUN 13, 1995 CP= 1798.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 151.4 CRITERION= .3637
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6903
 HT FLOW CONVERGENCE VALUE= .4257 CRITERION= .3314
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9996E-01
 HT FLOW CONVERGENCE VALUE= .2344E-01 CRITERION= .3314 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 36
 *** TIME = .344962E+07 TIME INC = 293827.
 *** RESPONSE EIGENVALUE = .2518E-05 OSCILLATION LIMIT = .7398
 *** AUTO TIME STEP: NEXT TIME INC = .19858E+06 DECREASED (FACTOR = .6758)

HT FLOW CONVERGENCE VALUE= 102.4 CRITERION= .3468
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2801
 HT FLOW CONVERGENCE VALUE= .1782 CRITERION= .3307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 37
 *** TIME = .364820E+07 TIME INC = 198580.
 *** RESPONSE EIGENVALUE = .2557E-04 OSCILLATION LIMIT = 5.078
 *** AUTO TIME STEP: NEXT TIME INC = 78894. DECREASED (FACTOR = .3973)

HT FLOW CONVERGENCE VALUE= 40.65 CRITERION= .3332
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1835
 HT FLOW CONVERGENCE VALUE= .1168 CRITERION= .3309 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 38
 *** TIME = .372709E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4943E-05 OSCILLATION LIMIT = .3900
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.71 CRITERION= .3334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1113
 HT FLOW CONVERGENCE VALUE= .7653E-01 CRITERION= .3308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 39
 *** TIME = .380599E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1201E-04 OSCILLATION LIMIT = .9478
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.65 CRITERION= .3333
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1137
 HT FLOW CONVERGENCE VALUE= .9097E-01 CRITERION= .3307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 40
 *** TIME = .388488E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5490E-05 OSCILLATION LIMIT = .4331
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.71 CRITERION= .3332
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1117
 HT FLOW CONVERGENCE VALUE= .8445E-01 CRITERION= .3307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 41
 *** TIME = .396378E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4830E-05 OSCILLATION LIMIT = .3811
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.65 CRITERION= .3332
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1113
 HT FLOW CONVERGENCE VALUE= .9241E-01 CRITERION= .3306 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 42
 *** TIME = .404267E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5164E-05 OSCILLATION LIMIT = .4074
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.70 CRITERION= .3331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1117
 HT FLOW CONVERGENCE VALUE= .8728E-01 CRITERION= .3306 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 43
 *** TIME = .412156E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .3715E-05 OSCILLATION LIMIT = .2931
 *** AUTO TIME STEP: NEXT TIME INC = .13461E+06 INCREASED (FACTOR = 1.7062)

HT FLOW CONVERGENCE VALUE= 69.35 CRITERION= .3378
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1898
 HT FLOW CONVERGENCE VALUE= .1573 CRITERION= .3305 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 44
 *** TIME = .425617E+07 TIME INC = 134606.
 *** RESPONSE EIGENVALUE = .2024E-05 OSCILLATION LIMIT = .2724
 *** AUTO TIME STEP: NEXT TIME INC = .24708E+06 INCREASED (FACTOR = 1.8356)

HT FLOW CONVERGENCE VALUE= 127.3 CRITERION= .3542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3488
 HT FLOW CONVERGENCE VALUE= .2869 CRITERION= .3304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 45
 *** TIME = .450325E+07 TIME INC = 247077.
 *** RESPONSE EIGENVALUE = .1041E-05 OSCILLATION LIMIT = .2571

*** AUTO TIME STEP: NEXT TIME INC = .48050E+06 INCREASED (FACTOR = 1.9447)

HT FLOW CONVERGENCE VALUE= 247.5 CRITERION= .4128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6777
 HT FLOW CONVERGENCE VALUE= .5555 CRITERION= .3301
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1092
 HT FLOW CONVERGENCE VALUE= .3488E-01 CRITERION= .3300 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 47
 *** TIME = .498374E+07 TIME INC = 480497.
 *** RESPONSE EIGENVALUE = .3160E-05 OSCILLATION LIMIT = 1.518
 *** AUTO TIME STEP: NEXT TIME INC = .16017E+06 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 82.56 CRITERION= .3402
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2259
 HT FLOW CONVERGENCE VALUE= .1799 CRITERION= .3299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 12 COMPLETED. CUM ITER = 48
 *** TIME = .514391E+07 TIME INC = 160166.
 *** RESPONSE EIGENVALUE = .1272E-05 OSCILLATION LIMIT = .2038
 *** AUTO STEP TIME: NEXT TIME INC = .16017E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.51 CRITERION= .3401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2259
 HT FLOW CONVERGENCE VALUE= .1836 CRITERION= .3299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 13 COMPLETED. CUM ITER = 49
 *** TIME = .530407E+07 TIME INC = 160166.
 *** RESPONSE EIGENVALUE = .1545E-05 OSCILLATION LIMIT = .2475
 *** AUTO TIME STEP: NEXT TIME INC = .32353E+06 INCREASED (FACTOR = 2.0200)

HT FLOW CONVERGENCE VALUE= 166.7 CRITERION= .3696
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4563
 HT FLOW CONVERGENCE VALUE= .3600 CRITERION= .3297
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6975E-01
 HT FLOW CONVERGENCE VALUE= .2249E-01 CRITERION= .3296 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 5 SUBSTEP 14 COMPLETED. CUM ITER = 51
 *** TIME = .562760E+07 TIME INC = 323531.
 *** RESPONSE EIGENVALUE = .3244E-05 OSCILLATION LIMIT = 1.050
 *** AUTO TIME STEP: NEXT TIME INC = .15413E+06 DECREASED (FACTOR = .4764)

HT FLOW CONVERGENCE VALUE= 79.40 CRITERION= .3391
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2174
 HT FLOW CONVERGENCE VALUE= .1788 CRITERION= .3295 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 15 COMPLETED. CUM ITER = 52
 *** TIME = .578173E+07 TIME INC = 154127.
 *** RESPONSE EIGENVALUE = .7224E-06 OSCILLATION LIMIT = .1113
 *** AUTO STEP TIME: NEXT TIME INC = .15413E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 79.48 CRITERION= .3389
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2178
 HT FLOW CONVERGENCE VALUE= .1726 CRITERION= .3295 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 16 COMPLETED. CUM ITER = 53
 *** TIME = .593586E+07 TIME INC = 154127.
 *** RESPONSE EIGENVALUE = .1362E-05 OSCILLATION LIMIT = .2099
 *** AUTO TIME STEP: NEXT TIME INC = .18785E+06 INCREASED (FACTOR = 1.2188)

HT FLOW CONVERGENCE VALUE= 96.81 CRITERION= .3434
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2649
 HT FLOW CONVERGENCE VALUE= .2100 CRITERION= .3293 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 5 SUBSTEP 17 COMPLETED. CUM ITER = 54
 *** TIME = .612371E+07 TIME INC = 187846.
 *** RESPONSE EIGENVALUE = .2170E-05 OSCILLATION LIMIT = .4077
 *** AUTO STEP TIME: NEXT TIME INC = .18785E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 96.88 CRITERION= .3433


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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2650
HT FLOW CONVERGENCE VALUE= .2090 CRITERION= .3293 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 18 COMPLETED. CUM ITER = 55
*** TIME = .631155E+07 TIME INC = 187846.
*** RESPONSE EIGENVALUE = .1538E-05 OSCILLATION LIMIT = .2889

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 23:31:23 JUN 13, 1995 CP= 3038.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 55.59 CRITERION= .3339
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1516
HT FLOW CONVERGENCE VALUE= .1192 CRITERION= .3292 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 56
*** TIME = .649940E+07 TIME INC = 187846.
*** RESPONSE EIGENVALUE = .3635E-05 OSCILLATION LIMIT = .6828
*** AUTO STEP TIME: NEXT TIME INC = .18785E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 55.60 CRITERION= .3339
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1511
HT FLOW CONVERGENCE VALUE= .1090 CRITERION= .3291 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 57
*** TIME = .668724E+07 TIME INC = 187846.
*** RESPONSE EIGENVALUE = .5571E-05 OSCILLATION LIMIT = 1.046
*** AUTO STEP TIME: NEXT TIME INC = 89754. DECREASED (FACTOR = .4778)

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HT FLOW CONVERGENCE VALUE= 26.57 CRITERION= .3301
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7227E-01
HT FLOW CONVERGENCE VALUE= .5634E-01 CRITERION= .3290 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 58
*** TIME = .677700E+07 TIME INC = 89754.2
*** RESPONSE EIGENVALUE = .6024E-05 OSCILLATION LIMIT = .5407
*** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 26.59 CRITERION= .3301
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7231E-01
HT FLOW CONVERGENCE VALUE= .5042E-01 CRITERION= .3290 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 59
*** TIME = .686675E+07 TIME INC = 89754.2
*** RESPONSE EIGENVALUE = .6479E-05 OSCILLATION LIMIT = .5816
*** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 26.56 CRITERION= .3300
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7216E-01
HT FLOW CONVERGENCE VALUE= .5462E-01 CRITERION= .3289 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 60
*** TIME = .695651E+07 TIME INC = 89754.2
*** RESPONSE EIGENVALUE = .4566E-05 OSCILLATION LIMIT = .4098
*** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 26.59 CRITERION= .3300
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7242E-01
HT FLOW CONVERGENCE VALUE= .5119E-01 CRITERION= .3289 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 61
*** TIME = .704626E+07 TIME INC = 89754.2
*** RESPONSE EIGENVALUE = .4249E-05 OSCILLATION LIMIT = .3813
*** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 26.56 CRITERION= .3300
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7216E-01
 HT FLOW CONVERGENCE VALUE= .5334E-01 CRITERION= .3288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 62
 *** TIME = .713601E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .4732E-05 OSCILLATION LIMIT = .4247
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.59 CRITERION= .3299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7244E-01
 HT FLOW CONVERGENCE VALUE= .5103E-01 CRITERION= .3288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 63
 *** TIME = .722577E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .3854E-05 OSCILLATION LIMIT = .3460
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.56 CRITERION= .3299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7216E-01
 HT FLOW CONVERGENCE VALUE= .5263E-01 CRITERION= .3287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 64
 *** TIME = .731552E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .4430E-05 OSCILLATION LIMIT = .3976
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.59 CRITERION= .3298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7245E-01
 HT FLOW CONVERGENCE VALUE= .5095E-01 CRITERION= .3287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 65
 *** TIME = .740528E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .3633E-05 OSCILLATION LIMIT = .3261
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.57 CRITERION= .3298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7216E-01
 HT FLOW CONVERGENCE VALUE= .5206E-01 CRITERION= .3286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 66
 *** TIME = .749503E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .4180E-05 OSCILLATION LIMIT = .3752
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.59 CRITERION= .3297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7246E-01
 HT FLOW CONVERGENCE VALUE= .5090E-01 CRITERION= .3286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 67
 *** TIME = .758479E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .3479E-05 OSCILLATION LIMIT = .3122
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.57 CRITERION= .3297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7216E-01
 HT FLOW CONVERGENCE VALUE= .5203E-01 CRITERION= .3285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 13 COMPLETED. CUM ITER = 68
 *** TIME = .767454E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .3983E-05 OSCILLATION LIMIT = .3575
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.60 CRITERION= .3296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7246E-01
 HT FLOW CONVERGENCE VALUE= .5134E-01 CRITERION= .3285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 14 COMPLETED. CUM ITER = 69
 *** TIME = .776429E+07 TIME INC = 89754.2

*** RESPONSE EIGENVALUE = .3369E-05 OSCILLATION LIMIT = .3024
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.58 CRITERION= .3296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7216E-01
 HT FLOW CONVERGENCE VALUE= .5233E-01 CRITERION= .3284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 15 COMPLETED. CUM ITER = 70
 *** TIME = .785405E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .3827E-05 OSCILLATION LIMIT = .3435
 *** AUTO STEP TIME: NEXT TIME INC = 89754. UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.60 CRITERION= .3295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7244E-01
 HT FLOW CONVERGENCE VALUE= .5067E-01 CRITERION= .3284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 16 COMPLETED. CUM ITER = 71
 *** TIME = .794380E+07 TIME INC = 89754.2
 *** RESPONSE EIGENVALUE = .3292E-05 OSCILLATION LIMIT = .2954
 *** AUTO TIME STEP: NEXT TIME INC = .15190E+06 INCREASED (FACTOR = 1.6924)

HT FLOW CONVERGENCE VALUE= 44.97 CRITERION= .3315
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1221
 HT FLOW CONVERGENCE VALUE= .8572E-01 CRITERION= .3283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 17 COMPLETED. CUM ITER = 72
 *** TIME = .809571E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .2320E-05 OSCILLATION LIMIT = .3524
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.01 CRITERION= .3314
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1224
 HT FLOW CONVERGENCE VALUE= .8305E-01 CRITERION= .3283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 18 COMPLETED. CUM ITER = 73
 *** TIME = .824761E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .2583E-05 OSCILLATION LIMIT = .3924
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.99 CRITERION= .3313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1221
 HT FLOW CONVERGENCE VALUE= .8286E-01 CRITERION= .3282 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 19 COMPLETED. CUM ITER = 74
 *** TIME = .839951E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .3361E-05 OSCILLATION LIMIT = .5105
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.02 CRITERION= .3312
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1223
 HT FLOW CONVERGENCE VALUE= .8145E-01 CRITERION= .3281 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 20 COMPLETED. CUM ITER = 75
 *** TIME = .855142E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .2772E-05 OSCILLATION LIMIT = .4211
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.00 CRITERION= .3312
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1221
 HT FLOW CONVERGENCE VALUE= .8130E-01 CRITERION= .3280 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 21 COMPLETED. CUM ITER = 76
 *** TIME = .870332E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .3164E-05 OSCILLATION LIMIT = .4807
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.03 CRITERION= .3311
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1222
 HT FLOW CONVERGENCE VALUE= .8047E-01 CRITERION= .3279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 22 COMPLETED. CUM ITER = 77
 *** TIME = .885523E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .2841E-05 OSCILLATION LIMIT = .4315
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.01 CRITERION= .3310
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1221
 HT FLOW CONVERGENCE VALUE= .8275E-01 CRITERION= .3278 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 23 COMPLETED. CUM ITER = 78
 *** TIME = .900713E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .3103E-05 OSCILLATION LIMIT = .4713
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.05 CRITERION= .3309
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1222
 HT FLOW CONVERGENCE VALUE= .8207E-01 CRITERION= .3278 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 24 COMPLETED. CUM ITER = 79
 *** TIME = .915903E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .2854E-05 OSCILLATION LIMIT = .4335
 *** AUTO STEP TIME: NEXT TIME INC = .15190E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.03 CRITERION= .3308
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1221
 HT FLOW CONVERGENCE VALUE= .8249E-01 CRITERION= .3277 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 25 COMPLETED. CUM ITER = 80
 *** TIME = .931094E+07 TIME INC = 151904.
 *** RESPONSE EIGENVALUE = .3076E-05 OSCILLATION LIMIT = .4672
 *** AUTO STEP TIME: NEXT TIME INC = 78187. DECREASED (FACTOR = .5147)

HT FLOW CONVERGENCE VALUE= 23.21 CRITERION= .3285
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6306E-01
 HT FLOW CONVERGENCE VALUE= .4066E-01 CRITERION= .3276 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 26 COMPLETED. CUM ITER = 81
 *** TIME = .938912E+07 TIME INC = 78187.4
 *** RESPONSE EIGENVALUE = .5248E-05 OSCILLATION LIMIT = .4103
 *** AUTO STEP TIME: NEXT TIME INC = 78187. UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.19 CRITERION= .3284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6286E-01
 HT FLOW CONVERGENCE VALUE= .4181E-01 CRITERION= .3275 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 6 SUBSTEP 27 COMPLETED. CUM ITER = 82
 *** TIME = .946731E+07 TIME INC = 78187.4
 *** RESPONSE EIGENVALUE = .4766E-05 OSCILLATION LIMIT = .3726

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:00:28 JUN 14, 1995 CP= 4759.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 16.54 CRITERION= .3280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4536E-01
 HT FLOW CONVERGENCE VALUE= .3163E-01 CRITERION= .3276 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 83
 *** TIME = .954621E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2631E-05 OSCILLATION LIMIT = .2076
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.51 CRITERION= .3280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01

HT FLOW CONVERGENCE VALUE= .2901E-01 CRITERION= .3275 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 84
 *** TIME = .962510E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7803E-05 OSCILLATION LIMIT = .6156
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.55 CRITERION= .3279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4522E-01
 HT FLOW CONVERGENCE VALUE= .2988E-01 CRITERION= .3275 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 85
 *** TIME = .970399E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4697E-05 OSCILLATION LIMIT = .3706
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.51 CRITERION= .3279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .2974E-01 CRITERION= .3274 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 86
 *** TIME = .978289E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5666E-05 OSCILLATION LIMIT = .4470
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.55 CRITERION= .3278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4520E-01
 HT FLOW CONVERGENCE VALUE= .2978E-01 CRITERION= .3274 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 87
 *** TIME = .986178E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4928E-05 OSCILLATION LIMIT = .3888
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.52 CRITERION= .3278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .2974E-01 CRITERION= .3273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 88
 *** TIME = .994068E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5469E-05 OSCILLATION LIMIT = .4315
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.55 CRITERION= .3277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4518E-01
 HT FLOW CONVERGENCE VALUE= .2978E-01 CRITERION= .3273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 89
 *** TIME = .100196E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4894E-05 OSCILLATION LIMIT = .3861
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.52 CRITERION= .3277
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .3272 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 90
 *** TIME = .100985E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5340E-05 OSCILLATION LIMIT = .4213
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.55 CRITERION= .3276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4517E-01
 HT FLOW CONVERGENCE VALUE= .2978E-01 CRITERION= .3272 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 91
 *** TIME = .101774E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4855E-05 OSCILLATION LIMIT = .3830
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.52 CRITERION= .3276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .2971E-01 CRITERION= .3271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 92
 *** TIME = .102563E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5237E-05 OSCILLATION LIMIT = .4131
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.56 CRITERION= .3276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4516E-01
 HT FLOW CONVERGENCE VALUE= .2981E-01 CRITERION= .3271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 93
 *** TIME = .103351E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4814E-05 OSCILLATION LIMIT = .3798
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.52 CRITERION= .3276
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .3009E-01 CRITERION= .3271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 94
 *** TIME = .104140E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5151E-05 OSCILLATION LIMIT = .4064
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.56 CRITERION= .3275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4514E-01
 HT FLOW CONVERGENCE VALUE= .3015E-01 CRITERION= .3271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 95
 *** TIME = .104929E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4774E-05 OSCILLATION LIMIT = .3766
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.53 CRITERION= .3275
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .3006E-01 CRITERION= .3270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 96
 *** TIME = .105718E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5079E-05 OSCILLATION LIMIT = .4007
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.56 CRITERION= .3274
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4513E-01
 HT FLOW CONVERGENCE VALUE= .3015E-01 CRITERION= .3270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 97
 *** TIME = .106507E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4733E-05 OSCILLATION LIMIT = .3734
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.53 CRITERION= .3274
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .3004E-01 CRITERION= .3269 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 16 COMPLETED. CUM ITER = 98
 *** TIME = .107296E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5013E-05 OSCILLATION LIMIT = .3955
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.56 CRITERION= .3273
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4512E-01
 HT FLOW CONVERGENCE VALUE= .3014E-01 CRITERION= .3269 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 17 COMPLETED. CUM ITER = 99
 *** TIME = .108085E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4694E-05 OSCILLATION LIMIT = .3704

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.53 CRITERION= .3273
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .3003E-01 CRITERION= .3268 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 18 COMPLETED. CUM ITER = 100
 *** TIME = .108874E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4954E-05 OSCILLATION LIMIT = .3909
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .3272
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4511E-01
 HT FLOW CONVERGENCE VALUE= .3014E-01 CRITERION= .3268 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 19 COMPLETED. CUM ITER = 101
 *** TIME = .109663E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4657E-05 OSCILLATION LIMIT = .3674
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.53 CRITERION= .3272
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .3267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 20 COMPLETED. CUM ITER = 102
 *** TIME = .110452E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4901E-05 OSCILLATION LIMIT = .3867
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .3272
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4510E-01
 HT FLOW CONVERGENCE VALUE= .3013E-01 CRITERION= .3267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 21 COMPLETED. CUM ITER = 103
 *** TIME = .111241E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4622E-05 OSCILLATION LIMIT = .3646
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.54 CRITERION= .3271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .2998E-01 CRITERION= .3267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 22 COMPLETED. CUM ITER = 104
 *** TIME = .112030E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4853E-05 OSCILLATION LIMIT = .3829
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .3271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4509E-01
 HT FLOW CONVERGENCE VALUE= .3005E-01 CRITERION= .3266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 23 COMPLETED. CUM ITER = 105
 *** TIME = .112819E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4588E-05 OSCILLATION LIMIT = .3620
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.54 CRITERION= .3271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
 HT FLOW CONVERGENCE VALUE= .2993E-01 CRITERION= .3266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 24 COMPLETED. CUM ITER = 106
 *** TIME = .113608E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4808E-05 OSCILLATION LIMIT = .3793
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.57 CRITERION= .3270
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4508E-01
 HT FLOW CONVERGENCE VALUE= .3004E-01 CRITERION= .3266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 25 COMPLETED. CUM ITER = 107

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*** TIME = .114397E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4557E-05    OSCILLATION LIMIT = .3596
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.54    CRITERION= .3270
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
    HT FLOW CONVERGENCE VALUE= .2992E-01    CRITERION= .3265    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 26 COMPLETED.    CUM ITER = 108
*** TIME = .115186E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4767E-05    OSCILLATION LIMIT = .3761
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.57    CRITERION= .3269
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4507E-01
    HT FLOW CONVERGENCE VALUE= .3004E-01    CRITERION= .3265    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 27 COMPLETED.    CUM ITER = 109
*** TIME = .115974E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4528E-05    OSCILLATION LIMIT = .3573
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.54    CRITERION= .3269
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
    HT FLOW CONVERGENCE VALUE= .2991E-01    CRITERION= .3264    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 28 COMPLETED.    CUM ITER = 110
*** TIME = .116763E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4729E-05    OSCILLATION LIMIT = .3731
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.58    CRITERION= .3268
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4506E-01
    HT FLOW CONVERGENCE VALUE= .3003E-01    CRITERION= .3264    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 29 COMPLETED.    CUM ITER = 111
*** TIME = .117552E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4501E-05    OSCILLATION LIMIT = .3551
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.55    CRITERION= .3268
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
    HT FLOW CONVERGENCE VALUE= .2990E-01    CRITERION= .3263    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 30 COMPLETED.    CUM ITER = 112
*** TIME = .118341E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4693E-05    OSCILLATION LIMIT = .3702
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.58    CRITERION= .3267
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4505E-01
    HT FLOW CONVERGENCE VALUE= .3001E-01    CRITERION= .3263    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 31 COMPLETED.    CUM ITER = 113
*** TIME = .119130E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4474E-05    OSCILLATION LIMIT = .3530
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.55    CRITERION= .3267
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
    HT FLOW CONVERGENCE VALUE= .2989E-01    CRITERION= .3262    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 32 COMPLETED.    CUM ITER = 114
*** TIME = .119919E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4659E-05    OSCILLATION LIMIT = .3676
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.58    CRITERION= .3267
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4504E-01
    HT FLOW CONVERGENCE VALUE= .2997E-01    CRITERION= .3262    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 33 COMPLETED. CUM ITER = 115
*** TIME = .120708E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4449E-05 OSCILLATION LIMIT = .3510
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.55 CRITERION= .3267
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
HT FLOW CONVERGENCE VALUE= .2977E-01 CRITERION= .3262 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 34 COMPLETED. CUM ITER = 116
*** TIME = .121497E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4628E-05 OSCILLATION LIMIT = .3651
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.58 CRITERION= .3266
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4503E-01
HT FLOW CONVERGENCE VALUE= .2985E-01 CRITERION= .3262 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 35 COMPLETED. CUM ITER = 117
*** TIME = .122286E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4425E-05 OSCILLATION LIMIT = .3491
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.55 CRITERION= .3266
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
HT FLOW CONVERGENCE VALUE= .2973E-01 CRITERION= .3261 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 36 COMPLETED. CUM ITER = 118
*** TIME = .123075E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4598E-05 OSCILLATION LIMIT = .3627
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.59 CRITERION= .3265
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4502E-01
HT FLOW CONVERGENCE VALUE= .2985E-01 CRITERION= .3261 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 37 COMPLETED. CUM ITER = 119
*** TIME = .123864E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4402E-05 OSCILLATION LIMIT = .3473
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.56 CRITERION= .3265
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
HT FLOW CONVERGENCE VALUE= .2973E-01 CRITERION= .3260 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 38 COMPLETED. CUM ITER = 120
*** TIME = .124653E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4570E-05 OSCILLATION LIMIT = .3606
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.59 CRITERION= .3264
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4501E-01
HT FLOW CONVERGENCE VALUE= .2984E-01 CRITERION= .3260 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 39 COMPLETED. CUM ITER = 121
*** TIME = .125442E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4382E-05 OSCILLATION LIMIT = .3457
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.56 CRITERION= .3264
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4483E-01
HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .3259 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 40 COMPLETED. CUM ITER = 122
*** TIME = .126231E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4545E-05 OSCILLATION LIMIT = .3586

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***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:43:27 JUN 14, 1995 CP= 7307.090
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 12.76 CRITERION= .3262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3479E-01
 HT FLOW CONVERGENCE VALUE= .2324E-01 CRITERION= .3259 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 123
 *** TIME = .127020E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4304E-05 OSCILLATION LIMIT = .3395
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.72 CRITERION= .3262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2179E-01 CRITERION= .3258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 124
 *** TIME = .127809E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8200E-05 OSCILLATION LIMIT = .6469
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.76 CRITERION= .3261
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3471E-01
 HT FLOW CONVERGENCE VALUE= .2250E-01 CRITERION= .3258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 125
 *** TIME = .128598E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5992E-05 OSCILLATION LIMIT = .4727
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.73 CRITERION= .3261
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2217E-01 CRITERION= .3258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 126
 *** TIME = .129386E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6637E-05 OSCILLATION LIMIT = .5236
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.76 CRITERION= .3260
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3470E-01
 HT FLOW CONVERGENCE VALUE= .2242E-01 CRITERION= .3258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 127
 *** TIME = .130175E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6234E-05 OSCILLATION LIMIT = .4918
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.73 CRITERION= .3260
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3257 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 128
 *** TIME = .130964E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6548E-05 OSCILLATION LIMIT = .5166
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.76 CRITERION= .3259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3468E-01
 HT FLOW CONVERGENCE VALUE= .2240E-01 CRITERION= .3257 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 129
 *** TIME = .131753E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6217E-05 OSCILLATION LIMIT = .4905
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.73 CRITERION= .3259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3256 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 130
 *** TIME = .132542E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6496E-05 OSCILLATION LIMIT = .5125
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.76 CRITERION= .3259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3467E-01
 HT FLOW CONVERGENCE VALUE= .2239E-01 CRITERION= .3256 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 131
 *** TIME = .133331E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6196E-05 OSCILLATION LIMIT = .4888
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.73 CRITERION= .3259
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2219E-01 CRITERION= .3255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 132
 *** TIME = .134120E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6452E-05 OSCILLATION LIMIT = .5090
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.77 CRITERION= .3258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3466E-01
 HT FLOW CONVERGENCE VALUE= .2237E-01 CRITERION= .3255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 133
 *** TIME = .134909E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6171E-05 OSCILLATION LIMIT = .4869
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.73 CRITERION= .3258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2219E-01 CRITERION= .3255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 134
 *** TIME = .135698E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6414E-05 OSCILLATION LIMIT = .5060
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.77 CRITERION= .3257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3465E-01
 HT FLOW CONVERGENCE VALUE= .2236E-01 CRITERION= .3255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 135
 *** TIME = .136487E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6146E-05 OSCILLATION LIMIT = .4849
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.73 CRITERION= .3257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3254 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 136
 *** TIME = .137276E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6379E-05 OSCILLATION LIMIT = .5033
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.77 CRITERION= .3256
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3464E-01
 HT FLOW CONVERGENCE VALUE= .2235E-01 CRITERION= .3254 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 137
 *** TIME = .138065E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .6121E-05  OSCILLATION LIMIT = .4829
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.73    CRITERION= .3256
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
  HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3253    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 138
*** TIME = .138854E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6347E-05  OSCILLATION LIMIT = .5007
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.77    CRITERION= .3256
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3463E-01
  HT FLOW CONVERGENCE VALUE= .2234E-01 CRITERION= .3253    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 139
*** TIME = .139643E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6097E-05  OSCILLATION LIMIT = .4810
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.74    CRITERION= .3255
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
  HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3252    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 18 COMPLETED. CUM ITER = 140
*** TIME = .140432E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6317E-05  OSCILLATION LIMIT = .4984
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.77    CRITERION= .3255
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3463E-01
  HT FLOW CONVERGENCE VALUE= .2233E-01 CRITERION= .3252    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 19 COMPLETED. CUM ITER = 141
*** TIME = .141221E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6073E-05  OSCILLATION LIMIT = .4791
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.74    CRITERION= .3255
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
  HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3251    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 20 COMPLETED. CUM ITER = 142
*** TIME = .142010E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6289E-05  OSCILLATION LIMIT = .4961
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.77    CRITERION= .3254
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3462E-01
  HT FLOW CONVERGENCE VALUE= .2232E-01 CRITERION= .3251    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 21 COMPLETED. CUM ITER = 143
*** TIME = .142798E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6050E-05  OSCILLATION LIMIT = .4773
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.74    CRITERION= .3254
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
  HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3251    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 22 COMPLETED. CUM ITER = 144
*** TIME = .143587E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6262E-05  OSCILLATION LIMIT = .4940
*** AUTO STEP TIME:  NEXT TIME INC = 78894.    UNCHANGED

  HT FLOW CONVERGENCE VALUE= 12.77    CRITERION= .3253
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3461E-01
  HT FLOW CONVERGENCE VALUE= .2231E-01 CRITERION= .3251    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 8 SUBSTEP 23 COMPLETED. CUM ITER = 145
 *** TIME = .144376E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6029E-05 OSCILLATION LIMIT = .4757
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.74 CRITERION= .3253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .3250 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 24 COMPLETED. CUM ITER = 146
 *** TIME = .145165E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6236E-05 OSCILLATION LIMIT = .4920
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.77 CRITERION= .3252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3460E-01
 HT FLOW CONVERGENCE VALUE= .2230E-01 CRITERION= .3250 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 25 COMPLETED. CUM ITER = 147
 *** TIME = .145954E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6009E-05 OSCILLATION LIMIT = .4741
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.74 CRITERION= .3252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2217E-01 CRITERION= .3249 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 26 COMPLETED. CUM ITER = 148
 *** TIME = .146743E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6212E-05 OSCILLATION LIMIT = .4901
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.78 CRITERION= .3252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3459E-01
 HT FLOW CONVERGENCE VALUE= .2230E-01 CRITERION= .3249 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 27 COMPLETED. CUM ITER = 149
 *** TIME = .147532E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5990E-05 OSCILLATION LIMIT = .4725
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.74 CRITERION= .3252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2221E-01 CRITERION= .3248 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 28 COMPLETED. CUM ITER = 150
 *** TIME = .148321E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6188E-05 OSCILLATION LIMIT = .4882
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.78 CRITERION= .3251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3459E-01
 HT FLOW CONVERGENCE VALUE= .2241E-01 CRITERION= .3248 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 29 COMPLETED. CUM ITER = 151
 *** TIME = .149110E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5971E-05 OSCILLATION LIMIT = .4711
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.75 CRITERION= .3251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2230E-01 CRITERION= .3248 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 30 COMPLETED. CUM ITER = 152
 *** TIME = .149899E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6168E-05 OSCILLATION LIMIT = .4866
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.78 CRITERION= .3250
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3458E-01

HT FLOW CONVERGENCE VALUE= .2241E-01 CRITERION= .3247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 31 COMPLETED. CUM ITER = 153
 *** TIME = .150688E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5954E-05 OSCILLATION LIMIT = .4698
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.75 CRITERION= .3250
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2229E-01 CRITERION= .3247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 32 COMPLETED. CUM ITER = 154
 *** TIME = .151477E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6147E-05 OSCILLATION LIMIT = .4850
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.78 CRITERION= .3249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3457E-01
 HT FLOW CONVERGENCE VALUE= .2240E-01 CRITERION= .3247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 33 COMPLETED. CUM ITER = 155
 *** TIME = .152266E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5937E-05 OSCILLATION LIMIT = .4684
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.75 CRITERION= .3249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2255E-01 CRITERION= .3246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 34 COMPLETED. CUM ITER = 156
 *** TIME = .153055E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6126E-05 OSCILLATION LIMIT = .4833
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.78 CRITERION= .3249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3456E-01
 HT FLOW CONVERGENCE VALUE= .2280E-01 CRITERION= .3246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 35 COMPLETED. CUM ITER = 157
 *** TIME = .153844E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5924E-05 OSCILLATION LIMIT = .4674
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.75 CRITERION= .3248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2269E-01 CRITERION= .3245 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 36 COMPLETED. CUM ITER = 158
 *** TIME = .154633E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6112E-05 OSCILLATION LIMIT = .4822
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.78 CRITERION= .3248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3456E-01
 HT FLOW CONVERGENCE VALUE= .2279E-01 CRITERION= .3245 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 37 COMPLETED. CUM ITER = 159
 *** TIME = .155421E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5912E-05 OSCILLATION LIMIT = .4665
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.75 CRITERION= .3248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2269E-01 CRITERION= .3244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 38 COMPLETED. CUM ITER = 160
 *** TIME = .156210E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6093E-05 OSCILLATION LIMIT = .4807
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.78 CRITERION= .3247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3455E-01
 HT FLOW CONVERGENCE VALUE= .2278E-01 CRITERION= .3244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 39 COMPLETED. CUM ITER = 161
 *** TIME = .156999E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5897E-05 OSCILLATION LIMIT = .4653
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.75 CRITERION= .3247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3447E-01
 HT FLOW CONVERGENCE VALUE= .2268E-01 CRITERION= .3244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 40 COMPLETED. CUM ITER = 162
 *** TIME = .157788E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6074E-05 OSCILLATION LIMIT = .4792

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:26:30 JUN 14, 1995 CP= 9857.250
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2786E-01
 HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .3244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 163
 *** TIME = .158577E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6086E-05 OSCILLATION LIMIT = .4801
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.22 CRITERION= .3245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1739E-01 CRITERION= .3243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 164
 *** TIME = .159366E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1008E-04 OSCILLATION LIMIT = .7953
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2782E-01
 HT FLOW CONVERGENCE VALUE= .1787E-01 CRITERION= .3243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 165
 *** TIME = .160155E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7895E-05 OSCILLATION LIMIT = .6229
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.22 CRITERION= .3245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .3242 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 166
 *** TIME = .160944E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8565E-05 OSCILLATION LIMIT = .6757
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2781E-01
 HT FLOW CONVERGENCE VALUE= .1782E-01 CRITERION= .3242 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 167
 *** TIME = .161733E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8151E-05 OSCILLATION LIMIT = .6430

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*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.22    CRITERION= .3244
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .3241    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 168
*** TIME = .162522E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8489E-05    OSCILLATION LIMIT = .6698
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25    CRITERION= .3243
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2780E-01
HT FLOW CONVERGENCE VALUE= .1781E-01 CRITERION= .3241    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 169
*** TIME = .163311E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8144E-05    OSCILLATION LIMIT = .6425
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.22    CRITERION= .3243
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .3241    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 170
*** TIME = .164100E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8449E-05    OSCILLATION LIMIT = .6666
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3242
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2779E-01
HT FLOW CONVERGENCE VALUE= .1780E-01 CRITERION= .3241    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 171
*** TIME = .164889E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8132E-05    OSCILLATION LIMIT = .6415
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.22    CRITERION= .3242
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .3240    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 172
*** TIME = .165678E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8416E-05    OSCILLATION LIMIT = .6640
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3242
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2778E-01
HT FLOW CONVERGENCE VALUE= .1778E-01 CRITERION= .3240    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 173
*** TIME = .166467E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8117E-05    OSCILLATION LIMIT = .6404
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.22    CRITERION= .3241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1763E-01 CRITERION= .3239    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 174
*** TIME = .167256E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8388E-05    OSCILLATION LIMIT = .6617
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2777E-01
HT FLOW CONVERGENCE VALUE= .1774E-01 CRITERION= .3239    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 175

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*** TIME = .168045E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8100E-05    OSCILLATION LIMIT = .6391
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.22    CRITERION= .3241
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
    HT FLOW CONVERGENCE VALUE= .1757E-01 CRITERION= .3238    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 176
*** TIME = .168833E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8363E-05    OSCILLATION LIMIT = .6598
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3240
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2777E-01
    HT FLOW CONVERGENCE VALUE= .1770E-01 CRITERION= .3238    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 177
*** TIME = .169622E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8086E-05    OSCILLATION LIMIT = .6380
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.23    CRITERION= .3240
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
    HT FLOW CONVERGENCE VALUE= .1757E-01 CRITERION= .3238    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 178
*** TIME = .170411E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8343E-05    OSCILLATION LIMIT = .6582
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3239
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2776E-01
    HT FLOW CONVERGENCE VALUE= .1769E-01 CRITERION= .3238    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 179
*** TIME = .171200E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8070E-05    OSCILLATION LIMIT = .6367
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.23    CRITERION= .3239
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
    HT FLOW CONVERGENCE VALUE= .1757E-01 CRITERION= .3237    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 180
*** TIME = .171989E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8320E-05    OSCILLATION LIMIT = .6564
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3239
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2775E-01
    HT FLOW CONVERGENCE VALUE= .1769E-01 CRITERION= .3237    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 181
*** TIME = .172778E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8053E-05    OSCILLATION LIMIT = .6354
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.23    CRITERION= .3238
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
    HT FLOW CONVERGENCE VALUE= .1757E-01 CRITERION= .3236    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 182
*** TIME = .173567E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8298E-05    OSCILLATION LIMIT = .6547
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3238
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2775E-01
    HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .3236    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 183
*** TIME = .174356E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8037E-05 OSCILLATION LIMIT = .6341
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.23 CRITERION= .3238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1757E-01 CRITERION= .3235 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 184
*** TIME = .175145E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8277E-05 OSCILLATION LIMIT = .6530
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3237
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2774E-01
HT FLOW CONVERGENCE VALUE= .1767E-01 CRITERION= .3235 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 23 COMPLETED. CUM ITER = 185
*** TIME = .175934E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8021E-05 OSCILLATION LIMIT = .6328
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.23 CRITERION= .3237
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1756E-01 CRITERION= .3235 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 24 COMPLETED. CUM ITER = 186
*** TIME = .176723E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8257E-05 OSCILLATION LIMIT = .6514
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3236
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2774E-01
HT FLOW CONVERGENCE VALUE= .1767E-01 CRITERION= .3235 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 25 COMPLETED. CUM ITER = 187
*** TIME = .177512E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8006E-05 OSCILLATION LIMIT = .6316
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.23 CRITERION= .3236
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1756E-01 CRITERION= .3234 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 26 COMPLETED. CUM ITER = 188
*** TIME = .178301E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8237E-05 OSCILLATION LIMIT = .6499
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3236
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2773E-01
HT FLOW CONVERGENCE VALUE= .1766E-01 CRITERION= .3234 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 27 COMPLETED. CUM ITER = 189
*** TIME = .179090E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7991E-05 OSCILLATION LIMIT = .6305
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.23 CRITERION= .3235
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
HT FLOW CONVERGENCE VALUE= .1756E-01 CRITERION= .3233 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 28 COMPLETED. CUM ITER = 190
*** TIME = .179879E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8218E-05 OSCILLATION LIMIT = .6484
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3235

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2773E-01
 HT FLOW CONVERGENCE VALUE= .1765E-01 CRITERION= .3233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 29 COMPLETED. CUM ITER = 191
 *** TIME = .180668E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7977E-05 OSCILLATION LIMIT = .6294
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.23 CRITERION= .3235
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1756E-01 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 30 COMPLETED. CUM ITER = 192
 *** TIME = .181457E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8200E-05 OSCILLATION LIMIT = .6469
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2772E-01
 HT FLOW CONVERGENCE VALUE= .1765E-01 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 31 COMPLETED. CUM ITER = 193
 *** TIME = .182245E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7964E-05 OSCILLATION LIMIT = .6283
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.23 CRITERION= .3234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1755E-01 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 32 COMPLETED. CUM ITER = 194
 *** TIME = .183034E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8182E-05 OSCILLATION LIMIT = .6455
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.27 CRITERION= .3233
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2772E-01
 HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 33 COMPLETED. CUM ITER = 195
 *** TIME = .183823E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7950E-05 OSCILLATION LIMIT = .6272
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.23 CRITERION= .3233
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1755E-01 CRITERION= .3231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 34 COMPLETED. CUM ITER = 196
 *** TIME = .184612E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8165E-05 OSCILLATION LIMIT = .6441
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.27 CRITERION= .3233
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2771E-01
 HT FLOW CONVERGENCE VALUE= .1764E-01 CRITERION= .3231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 35 COMPLETED. CUM ITER = 197
 *** TIME = .185401E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7939E-05 OSCILLATION LIMIT = .6263
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3232
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1755E-01 CRITERION= .3230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 36 COMPLETED. CUM ITER = 198
 *** TIME = .186190E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8149E-05 OSCILLATION LIMIT = .6429
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.27 CRITERION= .3232
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2771E-01
 HT FLOW CONVERGENCE VALUE= .1763E-01 CRITERION= .3230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 37 COMPLETED. CUM ITER = 199
 *** TIME = .186979E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7927E-05 OSCILLATION LIMIT = .6254
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3232
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1755E-01 CRITERION= .3229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 38 COMPLETED. CUM ITER = 200
 *** TIME = .187768E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8133E-05 OSCILLATION LIMIT = .6417
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.27 CRITERION= .3231
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2771E-01
 HT FLOW CONVERGENCE VALUE= .1763E-01 CRITERION= .3229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 39 COMPLETED. CUM ITER = 201
 *** TIME = .188557E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7916E-05 OSCILLATION LIMIT = .6245
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3231
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2770E-01
 HT FLOW CONVERGENCE VALUE= .1754E-01 CRITERION= .3229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 40 COMPLETED. CUM ITER = 202
 *** TIME = .189346E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8118E-05 OSCILLATION LIMIT = .6405

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:09:48 JUN 14, 1995 CP= 12407.720
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 8.623 CRITERION= .3230
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2330E-01
 HT FLOW CONVERGENCE VALUE= .1478E-01 CRITERION= .3229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 203
 *** TIME = .190135E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8439E-05 OSCILLATION LIMIT = .6658
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.591 CRITERION= .3230
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1418E-01 CRITERION= .3228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 204
 *** TIME = .190924E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1221E-04 OSCILLATION LIMIT = .9635
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.624 CRITERION= .3229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2328E-01
 HT FLOW CONVERGENCE VALUE= .1462E-01 CRITERION= .3228 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 205
 *** TIME = .191713E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .1019E-04  OSCILLATION LIMIT = .8042
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.591  CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1453E-01 CRITERION= .3227 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 206
*** TIME = .192502E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1086E-04  OSCILLATION LIMIT = .8567
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.624  CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2327E-01
HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .3227 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 207
*** TIME = .193291E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1044E-04  OSCILLATION LIMIT = .8237
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.592  CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1453E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 208
*** TIME = .194080E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1080E-04  OSCILLATION LIMIT = .8519
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.625  CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2327E-01
HT FLOW CONVERGENCE VALUE= .1466E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 209
*** TIME = .194868E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1044E-04  OSCILLATION LIMIT = .8235
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.593  CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1454E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 210
*** TIME = .195657E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1077E-04  OSCILLATION LIMIT = .8493
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.626  CRITERION= .3227
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2326E-01
HT FLOW CONVERGENCE VALUE= .1465E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 211
*** TIME = .196446E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1043E-04  OSCILLATION LIMIT = .8230
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.594  CRITERION= .3227
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1454E-01 CRITERION= .3225 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 212
*** TIME = .197235E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1074E-04  OSCILLATION LIMIT = .8471
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.626  CRITERION= .3226
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2326E-01
HT FLOW CONVERGENCE VALUE= .1465E-01 CRITERION= .3225 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 213
*** TIME = .198024E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = .8221
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.594 CRITERION= .3226
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1454E-01 CRITERION= .3224 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 214
*** TIME = .198813E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1071E-04 OSCILLATION LIMIT = .8453
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.627 CRITERION= .3225
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2326E-01
HT FLOW CONVERGENCE VALUE= .1464E-01 CRITERION= .3224 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 215
*** TIME = .199602E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1041E-04 OSCILLATION LIMIT = .8212
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.595 CRITERION= .3225
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1454E-01 CRITERION= .3224 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 216
*** TIME = .200391E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1069E-04 OSCILLATION LIMIT = .8436
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.627 CRITERION= .3225
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2325E-01
HT FLOW CONVERGENCE VALUE= .1464E-01 CRITERION= .3223 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 217
*** TIME = .201180E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1040E-04 OSCILLATION LIMIT = .8202
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.596 CRITERION= .3225
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1456E-01 CRITERION= .3223 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 218
*** TIME = .201969E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1067E-04 OSCILLATION LIMIT = .8421
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.628 CRITERION= .3224
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2325E-01
HT FLOW CONVERGENCE VALUE= .1468E-01 CRITERION= .3223 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 219
*** TIME = .202758E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1038E-04 OSCILLATION LIMIT = .8192
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.597 CRITERION= .3224
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
HT FLOW CONVERGENCE VALUE= .1461E-01 CRITERION= .3222 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 220
*** TIME = .203547E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1066E-04 OSCILLATION LIMIT = .8408
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.628 CRITERION= .3223
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2325E-01

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HT FLOW CONVERGENCE VALUE= .1470E-01 CRITERION= .3222 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 221
 *** TIME = .204336E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1037E-04 OSCILLATION LIMIT = .8184
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.597 CRITERION= .3223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1461E-01 CRITERION= .3221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 222
 *** TIME = .205125E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1064E-04 OSCILLATION LIMIT = .8394
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.629 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2325E-01
 HT FLOW CONVERGENCE VALUE= .1469E-01 CRITERION= .3221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 223
 *** TIME = .205914E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1036E-04 OSCILLATION LIMIT = .8174
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.598 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1461E-01 CRITERION= .3221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 224
 *** TIME = .206703E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1062E-04 OSCILLATION LIMIT = .8381
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.630 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2325E-01
 HT FLOW CONVERGENCE VALUE= .1469E-01 CRITERION= .3220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 225
 *** TIME = .207492E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = .8165
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.599 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1461E-01 CRITERION= .3220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 226
 *** TIME = .208280E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1061E-04 OSCILLATION LIMIT = .8367
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.630 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2325E-01
 HT FLOW CONVERGENCE VALUE= .1469E-01 CRITERION= .3220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 227
 *** TIME = .209069E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1034E-04 OSCILLATION LIMIT = .8156
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.600 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1460E-01 CRITERION= .3219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 228
 *** TIME = .209858E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1059E-04 OSCILLATION LIMIT = .8355
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.631 CRITERION= .3220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1468E-01 CRITERION= .3219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 27 COMPLETED. CUM ITER = 229
 *** TIME = .210647E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1033E-04 OSCILLATION LIMIT = .8147
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.600 CRITERION= .3220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1460E-01 CRITERION= .3218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 28 COMPLETED. CUM ITER = 230
 *** TIME = .211436E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1057E-04 OSCILLATION LIMIT = .8342
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.631 CRITERION= .3220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1468E-01 CRITERION= .3218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 29 COMPLETED. CUM ITER = 231
 *** TIME = .212225E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1032E-04 OSCILLATION LIMIT = .8138
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.601 CRITERION= .3219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1460E-01 CRITERION= .3218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 30 COMPLETED. CUM ITER = 232
 *** TIME = .213014E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1056E-04 OSCILLATION LIMIT = .8330
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.632 CRITERION= .3219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .3218 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 31 COMPLETED. CUM ITER = 233
 *** TIME = .213803E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1030E-04 OSCILLATION LIMIT = .8130
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.602 CRITERION= .3219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1460E-01 CRITERION= .3217 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 32 COMPLETED. CUM ITER = 234
 *** TIME = .214592E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1054E-04 OSCILLATION LIMIT = .8318
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.632 CRITERION= .3218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .3217 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 33 COMPLETED. CUM ITER = 235
 *** TIME = .215381E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1029E-04 OSCILLATION LIMIT = .8122
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.602 CRITERION= .3218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1459E-01 CRITERION= .3216 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 34 COMPLETED. CUM ITER = 236
 *** TIME = .216170E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1053E-04 OSCILLATION LIMIT = .8306

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.633 CRITERION= .3217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1466E-01 CRITERION= .3216 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 35 COMPLETED. CUM ITER = 237
 *** TIME = .216959E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1028E-04 OSCILLATION LIMIT = .8114
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.603 CRITERION= .3217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .3215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 36 COMPLETED. CUM ITER = 238
 *** TIME = .217748E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1051E-04 OSCILLATION LIMIT = .8295
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.634 CRITERION= .3217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1492E-01 CRITERION= .3215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 37 COMPLETED. CUM ITER = 239
 *** TIME = .218537E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1028E-04 OSCILLATION LIMIT = .8108
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.604 CRITERION= .3216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1485E-01 CRITERION= .3215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 38 COMPLETED. CUM ITER = 240
 *** TIME = .219326E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1051E-04 OSCILLATION LIMIT = .8289
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.634 CRITERION= .3216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1491E-01 CRITERION= .3215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 39 COMPLETED. CUM ITER = 241
 *** TIME = .220115E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1028E-04 OSCILLATION LIMIT = .8107
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.605 CRITERION= .3216
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2324E-01
 HT FLOW CONVERGENCE VALUE= .1485E-01 CRITERION= .3214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 40 COMPLETED. CUM ITER = 242
 *** TIME = .220904E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1049E-04 OSCILLATION LIMIT = .8280

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:52:58 JUN 14, 1995 CP= 14958.540
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UGF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 7.405 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1997E-01
 HT FLOW CONVERGENCE VALUE= .1276E-01 CRITERION= .3214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 243

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*** TIME = .221692E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1110E-04    OSCILLATION LIMIT = .8754
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.374    CRITERION= .3215
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1233E-01    CRITERION= .3213    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED.    CUM ITER = 244
*** TIME = .222481E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1490E-04    OSCILLATION LIMIT = 1.176
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.406    CRITERION= .3214
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1997E-01
HT FLOW CONVERGENCE VALUE= .1259E-01    CRITERION= .3213    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED.    CUM ITER = 245
*** TIME = .223270E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1288E-04    OSCILLATION LIMIT = 1.016
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.375    CRITERION= .3214
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1246E-01    CRITERION= .3213    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED.    CUM ITER = 246
*** TIME = .224059E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1357E-04    OSCILLATION LIMIT = 1.071
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.406    CRITERION= .3213
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1997E-01
HT FLOW CONVERGENCE VALUE= .1256E-01    CRITERION= .3212    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED.    CUM ITER = 247
*** TIME = .224848E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1313E-04    OSCILLATION LIMIT = 1.036
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.375    CRITERION= .3213
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1246E-01    CRITERION= .3212    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED.    CUM ITER = 248
*** TIME = .225637E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1351E-04    OSCILLATION LIMIT = 1.066
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.407    CRITERION= .3213
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1997E-01
HT FLOW CONVERGENCE VALUE= .1256E-01    CRITERION= .3212    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED.    CUM ITER = 249
*** TIME = .226426E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1313E-04    OSCILLATION LIMIT = 1.036
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.376    CRITERION= .3213
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1249E-01    CRITERION= .3211    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED.    CUM ITER = 250
*** TIME = .227215E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1348E-04    OSCILLATION LIMIT = 1.063
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.407    CRITERION= .3212
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1997E-01
HT FLOW CONVERGENCE VALUE= .1258E-01    CRITERION= .3211    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 251
*** TIME = .228004E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 1.036
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.376 CRITERION= .3212
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .3210 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 252
*** TIME = .228793E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1346E-04 OSCILLATION LIMIT = 1.062
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.407 CRITERION= .3211
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1260E-01 CRITERION= .3210 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 253
*** TIME = .229582E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1312E-04 OSCILLATION LIMIT = 1.035
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.377 CRITERION= .3211
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .3210 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 254
*** TIME = .230371E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1344E-04 OSCILLATION LIMIT = 1.060
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.408 CRITERION= .3211
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .3210 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 255
*** TIME = .231160E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1311E-04 OSCILLATION LIMIT = 1.034
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.377 CRITERION= .3210
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .3209 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 256
*** TIME = .231949E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1342E-04 OSCILLATION LIMIT = 1.059
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.408 CRITERION= .3210
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .3209 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 257
*** TIME = .232738E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1310E-04 OSCILLATION LIMIT = 1.034
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.378 CRITERION= .3210
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1253E-01 CRITERION= .3208 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 258
*** TIME = .233527E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1340E-04 OSCILLATION LIMIT = 1.057
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.409 CRITERION= .3209

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1280E-01 CRITERION= .3208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 259
 *** TIME = .234315E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1309E-04 OSCILLATION LIMIT = 1.033
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.379 CRITERION= .3209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .3208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 260
 *** TIME = .235104E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1339E-04 OSCILLATION LIMIT = 1.057
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.409 CRITERION= .3208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1279E-01 CRITERION= .3207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 261
 *** TIME = .235893E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1309E-04 OSCILLATION LIMIT = 1.033
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.379 CRITERION= .3208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .3207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 262
 *** TIME = .236682E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1338E-04 OSCILLATION LIMIT = 1.056
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.409 CRITERION= .3208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1280E-01 CRITERION= .3207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 263
 *** TIME = .237471E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1308E-04 OSCILLATION LIMIT = 1.032
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.380 CRITERION= .3208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .3206 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 264
 *** TIME = .238260E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1337E-04 OSCILLATION LIMIT = 1.055
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.410 CRITERION= .3207
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1279E-01 CRITERION= .3206 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 265
 *** TIME = .239049E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1308E-04 OSCILLATION LIMIT = 1.032
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.380 CRITERION= .3207
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 266
 *** TIME = .239838E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1336E-04 OSCILLATION LIMIT = 1.054
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.410 CRITERION= .3206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 267
 *** TIME = .240627E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1307E-04 OSCILLATION LIMIT = 1.031
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.381 CRITERION= .3206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1268E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 268
 *** TIME = .241416E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1334E-04 OSCILLATION LIMIT = 1.053
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.411 CRITERION= .3206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 269
 *** TIME = .242205E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1307E-04 OSCILLATION LIMIT = 1.031
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.381 CRITERION= .3205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1268E-01 CRITERION= .3204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 270
 *** TIME = .242994E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1333E-04 OSCILLATION LIMIT = 1.052
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.411 CRITERION= .3205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1274E-01 CRITERION= .3204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 271
 *** TIME = .243783E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1306E-04 OSCILLATION LIMIT = 1.030
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.382 CRITERION= .3205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1268E-01 CRITERION= .3203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 272
 *** TIME = .244572E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1332E-04 OSCILLATION LIMIT = 1.051
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.411 CRITERION= .3204
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1274E-01 CRITERION= .3203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 31 COMPLETED. CUM ITER = 273
 *** TIME = .245361E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1305E-04 OSCILLATION LIMIT = 1.029
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.382 CRITERION= .3204
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
 HT FLOW CONVERGENCE VALUE= .1268E-01 CRITERION= .3203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 32 COMPLETED. CUM ITER = 274
 *** TIME = .246150E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .1331E-04 OSCILLATION LIMIT = 1.050
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.412 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1274E-01 CRITERION= .3202 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 33 COMPLETED. CUM ITER = 275
*** TIME = .246939E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1304E-04 OSCILLATION LIMIT = 1.029
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.383 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1268E-01 CRITERION= .3202 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 34 COMPLETED. CUM ITER = 276
*** TIME = .247727E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1329E-04 OSCILLATION LIMIT = 1.049
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.412 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .3202 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 35 COMPLETED. CUM ITER = 277
*** TIME = .248516E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1303E-04 OSCILLATION LIMIT = 1.028
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.383 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1267E-01 CRITERION= .3201 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 36 COMPLETED. CUM ITER = 278
*** TIME = .249305E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1328E-04 OSCILLATION LIMIT = 1.048
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.413 CRITERION= .3202
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .3201 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 37 COMPLETED. CUM ITER = 279
*** TIME = .250094E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1302E-04 OSCILLATION LIMIT = 1.028
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.384 CRITERION= .3202
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1267E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 38 COMPLETED. CUM ITER = 280
*** TIME = .250883E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1327E-04 OSCILLATION LIMIT = 1.047
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.413 CRITERION= .3201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 39 COMPLETED. CUM ITER = 281
*** TIME = .251672E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1302E-04 OSCILLATION LIMIT = 1.027
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 7.385 CRITERION= .3201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996E-01
HT FLOW CONVERGENCE VALUE= .1267E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 11 SUBSTEP 40 COMPLETED. CUM ITER = 282
*** TIME = .252461E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1325E-04 OSCILLATION LIMIT = 1.046

***** ANSYS SOLVE COMMAND *****
1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 03:36:05 JUN 14, 1995 CP= 17508.690
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 6.438 CRITERION= .3200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1733E-01
HT FLOW CONVERGENCE VALUE= .1097E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 283
*** TIME = .253250E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1437E-04 OSCILLATION LIMIT = 1.134
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.408 CRITERION= .3200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1062E-01 CRITERION= .3199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 284
*** TIME = .254039E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1848E-04 OSCILLATION LIMIT = 1.458
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.438 CRITERION= .3200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1081E-01 CRITERION= .3199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 285
*** TIME = .254828E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1633E-04 OSCILLATION LIMIT = 1.288
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.408 CRITERION= .3199
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1070E-01 CRITERION= .3198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 286
*** TIME = .255617E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1707E-04 OSCILLATION LIMIT = 1.347
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.439 CRITERION= .3199
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1079E-01 CRITERION= .3198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 287
*** TIME = .256406E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1660E-04 OSCILLATION LIMIT = 1.309
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.409 CRITERION= .3199
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1070E-01 CRITERION= .3198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 288
*** TIME = .257195E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1701E-04 OSCILLATION LIMIT = 1.342
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.439 CRITERION= .3198
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01

HT FLOW CONVERGENCE VALUE= .1079E-01 CRITERION= .3197 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 289
 *** TIME = .257984E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1660E-04 OSCILLATION LIMIT = 1.310
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.409 CRITERION= .3198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1070E-01 CRITERION= .3197 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 290
 *** TIME = .258773E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1698E-04 OSCILLATION LIMIT = 1.340
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.439 CRITERION= .3198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1078E-01 CRITERION= .3197 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 291
 *** TIME = .259562E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1660E-04 OSCILLATION LIMIT = 1.310
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.410 CRITERION= .3197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1067E-01 CRITERION= .3196 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 292
 *** TIME = .260351E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1696E-04 OSCILLATION LIMIT = 1.338
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.440 CRITERION= .3197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1074E-01 CRITERION= .3196 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 293
 *** TIME = .261139E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1660E-04 OSCILLATION LIMIT = 1.310
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.410 CRITERION= .3197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1067E-01 CRITERION= .3195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 294
 *** TIME = .261928E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1695E-04 OSCILLATION LIMIT = 1.337
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.440 CRITERION= .3196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1074E-01 CRITERION= .3195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 295
 *** TIME = .262717E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1660E-04 OSCILLATION LIMIT = 1.309
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.411 CRITERION= .3196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1067E-01 CRITERION= .3195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 296
 *** TIME = .263506E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1693E-04 OSCILLATION LIMIT = 1.336
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.440 CRITERION= .3195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .3195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 297
 *** TIME = .264295E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1659E-04 OSCILLATION LIMIT = 1.309
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.411 CRITERION= .3195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1067E-01 CRITERION= .3194 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 298
 *** TIME = .265084E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1692E-04 OSCILLATION LIMIT = 1.335
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.440 CRITERION= .3195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1078E-01 CRITERION= .3194 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 299
 *** TIME = .265873E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1658E-04 OSCILLATION LIMIT = 1.308
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.411 CRITERION= .3195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1086E-01 CRITERION= .3193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 300
 *** TIME = .266662E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1691E-04 OSCILLATION LIMIT = 1.334
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.441 CRITERION= .3194
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1092E-01 CRITERION= .3193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 301
 *** TIME = .267451E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1659E-04 OSCILLATION LIMIT = 1.309
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.412 CRITERION= .3194
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1086E-01 CRITERION= .3193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 302
 *** TIME = .268240E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1690E-04 OSCILLATION LIMIT = 1.334
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.441 CRITERION= .3193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1092E-01 CRITERION= .3193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 303
 *** TIME = .269029E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1658E-04 OSCILLATION LIMIT = 1.308
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.412 CRITERION= .3193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
 HT FLOW CONVERGENCE VALUE= .1086E-01 CRITERION= .3192 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 304
 *** TIME = .269818E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1689E-04 OSCILLATION LIMIT = 1.332

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*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.441    CRITERION= .3193
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1092E-01 CRITERION= .3192    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 23 COMPLETED.    CUM ITER = 305
*** TIME = .270607E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1658E-04    OSCILLATION LIMIT = 1.308
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.413    CRITERION= .3192
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1085E-01 CRITERION= .3191    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 24 COMPLETED.    CUM ITER = 306
*** TIME = .271396E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1688E-04    OSCILLATION LIMIT = 1.331
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.442    CRITERION= .3192
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1091E-01 CRITERION= .3191    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 25 COMPLETED.    CUM ITER = 307
*** TIME = .272185E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1657E-04    OSCILLATION LIMIT = 1.307
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.413    CRITERION= .3192
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1088E-01 CRITERION= .3191    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 26 COMPLETED.    CUM ITER = 308
*** TIME = .272974E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1686E-04    OSCILLATION LIMIT = 1.330
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.442    CRITERION= .3191
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1104E-01 CRITERION= .3190    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 27 COMPLETED.    CUM ITER = 309
*** TIME = .273762E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1656E-04    OSCILLATION LIMIT = 1.307
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.414    CRITERION= .3191
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .3190    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 28 COMPLETED.    CUM ITER = 310
*** TIME = .274551E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1686E-04    OSCILLATION LIMIT = 1.330
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.442    CRITERION= .3191
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1106E-01 CRITERION= .3190    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 29 COMPLETED.    CUM ITER = 311
*** TIME = .275340E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1657E-04    OSCILLATION LIMIT = 1.307
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.414    CRITERION= .3190
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .3189    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 30 COMPLETED.    CUM ITER = 312

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*** TIME = .276129E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1685E-04    OSCILLATION LIMIT = 1.330
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.443    CRITERION= .3190
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1105E-01 CRITERION= .3189    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 313
*** TIME = .276918E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1656E-04    OSCILLATION LIMIT = 1.307
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.414    CRITERION= .3190
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .3188    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 314
*** TIME = .277707E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1684E-04    OSCILLATION LIMIT = 1.329
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.443    CRITERION= .3189
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1105E-01 CRITERION= .3188    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 315
*** TIME = .278496E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1656E-04    OSCILLATION LIMIT = 1.306
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.415    CRITERION= .3189
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .3188    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 316
*** TIME = .279285E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1683E-04    OSCILLATION LIMIT = 1.328
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.443    CRITERION= .3188
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1105E-01 CRITERION= .3188    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 317
*** TIME = .280074E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1655E-04    OSCILLATION LIMIT = 1.306
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.415    CRITERION= .3188
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .3187    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 318
*** TIME = .280863E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1682E-04    OSCILLATION LIMIT = 1.327
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.443    CRITERION= .3188
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1104E-01 CRITERION= .3187    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 319
*** TIME = .281652E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1654E-04    OSCILLATION LIMIT = 1.305
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 6.416    CRITERION= .3188
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
    HT FLOW CONVERGENCE VALUE= .1099E-01 CRITERION= .3186    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 320
*** TIME = .282441E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1680E-04 OSCILLATION LIMIT = 1.326
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.444 CRITERION= .3187
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1104E-01 CRITERION= .3186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 39 COMPLETED. CUM ITER = 321
*** TIME = .283230E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1654E-04 OSCILLATION LIMIT = 1.305
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.416 CRITERION= .3187
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732E-01
HT FLOW CONVERGENCE VALUE= .1099E-01 CRITERION= .3186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 40 COMPLETED. CUM ITER = 322
*** TIME = .284019E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1679E-04 OSCILLATION LIMIT = 1.325
Apply loads and solve for 1 to 9 years

*DO LOOP ON PARAMETER= TM FROM .31558E+08 TO .28402E+09 BY .31558E+08
TIME= .31558E+08

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5654.64534 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 107.47 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 108.60 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 111.24 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 20061.730 TIME= 04:19:12
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution)

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procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:19:12 JUN 14, 1995 CP= 20061.730
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 13
 TIME AT END OF THE LOAD STEP.31558E+08
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 5.700 CRITERION= .3186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9682E-02 CRITERION= .3186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 323
 *** TIME = .284808E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1832E-04 OSCILLATION LIMIT = 1.445
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.671 CRITERION= .3186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9432E-02 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 324
 *** TIME = .285597E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2235E-04 OSCILLATION LIMIT = 1.764
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.700 CRITERION= .3185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9574E-02 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 325
 *** TIME = .286386E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2024E-04 OSCILLATION LIMIT = 1.597
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.671 CRITERION= .3185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9488E-02 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 326
 *** TIME = .287174E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2100E-04 OSCILLATION LIMIT = 1.657
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.700 CRITERION= .3185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9560E-02 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 327
 *** TIME = .287963E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2050E-04 OSCILLATION LIMIT = 1.618
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.671 CRITERION= .3185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9488E-02 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 328
 *** TIME = .288752E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2094E-04 OSCILLATION LIMIT = 1.652
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.700 CRITERION= .3184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9555E-02 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 329
 *** TIME = .289541E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2051E-04 OSCILLATION LIMIT = 1.618
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.672 CRITERION= .3184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9488E-02 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 330
 *** TIME = .290330E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2091E-04 OSCILLATION LIMIT = 1.650
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.700 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9551E-02 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 331
 *** TIME = .291119E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2051E-04 OSCILLATION LIMIT = 1.618
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.672 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9487E-02 CRITERION= .3182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 332
 *** TIME = .291908E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2089E-04 OSCILLATION LIMIT = 1.648
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.701 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9524E-02 CRITERION= .3182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 333
 *** TIME = .292697E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2051E-04 OSCILLATION LIMIT = 1.618
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.673 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9462E-02 CRITERION= .3182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 334
 *** TIME = .293486E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2088E-04 OSCILLATION LIMIT = 1.647

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.701 CRITERION= .3182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9523E-02 CRITERION= .3181 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 335
 *** TIME = .294275E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2051E-04 OSCILLATION LIMIT = 1.618
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.673 CRITERION= .3182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9484E-02 CRITERION= .3181 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 336
 *** TIME = .295064E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2086E-04 OSCILLATION LIMIT = 1.646
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.701 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9548E-02 CRITERION= .3181 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 337
 *** TIME = .295853E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2050E-04 OSCILLATION LIMIT = 1.618
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.673 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9492E-02 CRITERION= .3180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 338
 *** TIME = .296642E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2085E-04 OSCILLATION LIMIT = 1.645
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.701 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9545E-02 CRITERION= .3180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 339
 *** TIME = .297431E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2050E-04 OSCILLATION LIMIT = 1.617
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.674 CRITERION= .3180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9491E-02 CRITERION= .3179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 340
 *** TIME = .298220E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2083E-04 OSCILLATION LIMIT = 1.643
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.702 CRITERION= .3180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9599E-02 CRITERION= .3179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 341
 *** TIME = .299009E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2049E-04 OSCILLATION LIMIT = 1.616
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.674 CRITERION= .3180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9612E-02 CRITERION= .3179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 342

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*** TIME = .299798E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2082E-04    OSCILLATION LIMIT = 1.643
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.702    CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9661E-02    CRITERION= .3179    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 343
*** TIME = .300586E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2049E-04    OSCILLATION LIMIT = 1.617
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.674    CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9610E-02    CRITERION= .3178    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 344
*** TIME = .301375E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2081E-04    OSCILLATION LIMIT = 1.642
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.702    CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9658E-02    CRITERION= .3178    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 345
*** TIME = .302164E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2049E-04    OSCILLATION LIMIT = 1.616
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.675    CRITERION= .3178
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9608E-02    CRITERION= .3177    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 346
*** TIME = .302953E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2080E-04    OSCILLATION LIMIT = 1.641
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.702    CRITERION= .3178
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9655E-02    CRITERION= .3177    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 347
*** TIME = .303742E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2048E-04    OSCILLATION LIMIT = 1.616
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.675    CRITERION= .3178
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9607E-02    CRITERION= .3177    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 348
*** TIME = .304531E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2079E-04    OSCILLATION LIMIT = 1.640
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.703    CRITERION= .3177
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9652E-02    CRITERION= .3177    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 349
*** TIME = .305320E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2047E-04    OSCILLATION LIMIT = 1.615
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.675    CRITERION= .3177
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9605E-02    CRITERION= .3176    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 350
*** TIME = .306109E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2078E-04 OSCILLATION LIMIT = 1.639
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.703 CRITERION= .3177
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9649E-02 CRITERION= .3176 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 351
*** TIME = .306898E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2047E-04 OSCILLATION LIMIT = 1.615
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.676 CRITERION= .3176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9603E-02 CRITERION= .3175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 352
*** TIME = .307687E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2076E-04 OSCILLATION LIMIT = 1.638
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.703 CRITERION= .3176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9646E-02 CRITERION= .3175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 31 COMPLETED. CUM ITER = 353
*** TIME = .308476E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2046E-04 OSCILLATION LIMIT = 1.614
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.676 CRITERION= .3176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9601E-02 CRITERION= .3175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 32 COMPLETED. CUM ITER = 354
*** TIME = .309265E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2075E-04 OSCILLATION LIMIT = 1.637
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.703 CRITERION= .3175
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9643E-02 CRITERION= .3174 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 33 COMPLETED. CUM ITER = 355
*** TIME = .310054E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2045E-04 OSCILLATION LIMIT = 1.614
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.676 CRITERION= .3175
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9600E-02 CRITERION= .3174 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 34 COMPLETED. CUM ITER = 356
*** TIME = .310843E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2074E-04 OSCILLATION LIMIT = 1.636
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.703 CRITERION= .3174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
HT FLOW CONVERGENCE VALUE= .9640E-02 CRITERION= .3174 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 35 COMPLETED. CUM ITER = 357
*** TIME = .311632E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2045E-04 OSCILLATION LIMIT = 1.613
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.677 CRITERION= .3174

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9598E-02 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 36 COMPLETED. CUM ITER = 358
 *** TIME = .312421E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2073E-04 OSCILLATION LIMIT = 1.635
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.704 CRITERION= .3174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9637E-02 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 37 COMPLETED. CUM ITER = 359
 *** TIME = .313209E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2044E-04 OSCILLATION LIMIT = 1.613
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.677 CRITERION= .3174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9596E-02 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 360
 *** TIME = .313998E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2072E-04 OSCILLATION LIMIT = 1.634
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.704 CRITERION= .3173
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9635E-02 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 361
 *** TIME = .314787E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2044E-04 OSCILLATION LIMIT = 1.612
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.677 CRITERION= .3173
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1534E-01
 HT FLOW CONVERGENCE VALUE= .9595E-02 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 362
 *** TIME = .315576E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2071E-04 OSCILLATION LIMIT = 1.634

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:02:25 JUN 14, 1995 CP= 22614.970
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 34.63 CRITERION= .3191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5666E-01 CRITERION= .3170 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 363
 *** TIME = .323466E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .3057E-04 OSCILLATION LIMIT = 24.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.61 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5410E-01 CRITERION= .3167 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 364
 *** TIME = .331355E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .4148E-04  OSCILLATION LIMIT = 32.72
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.64      CRITERION= .3185
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5463E-01  CRITERION= .3164    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  3 COMPLETED.  CUM ITER = 365
*** TIME = .339245E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3774E-04  OSCILLATION LIMIT = 29.78
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.62      CRITERION= .3183
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5439E-01  CRITERION= .3161    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  4 COMPLETED.  CUM ITER = 366
*** TIME = .347134E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4045E-04  OSCILLATION LIMIT = 31.91
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.65      CRITERION= .3180
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5523E-01  CRITERION= .3158    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  5 COMPLETED.  CUM ITER = 367
*** TIME = .355023E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3807E-04  OSCILLATION LIMIT = 30.03
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.63      CRITERION= .3177
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5483E-01  CRITERION= .3155    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  6 COMPLETED.  CUM ITER = 368
*** TIME = .362913E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4015E-04  OSCILLATION LIMIT = 31.67
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.66      CRITERION= .3174
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5515E-01  CRITERION= .3152    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  7 COMPLETED.  CUM ITER = 369
*** TIME = .370802E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3829E-04  OSCILLATION LIMIT = 30.21
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.64      CRITERION= .3171
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5476E-01  CRITERION= .3149    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  8 COMPLETED.  CUM ITER = 370
*** TIME = .378692E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3990E-04  OSCILLATION LIMIT = 31.48
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.67      CRITERION= .3168
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5502E-01  CRITERION= .3147    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  14  SUBSTEP  9 COMPLETED.  CUM ITER = 371
*** TIME = .386581E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3845E-04  OSCILLATION LIMIT = 30.33
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 34.65      CRITERION= .3166
    EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .9365E-01
    HT FLOW CONVERGENCE VALUE= .5469E-01  CRITERION= .3144    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 372
*** TIME = .394470E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3970E-04 OSCILLATION LIMIT = 31.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.68 CRITERION= .3163
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .5492E-01 CRITERION= .3141 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 373
*** TIME = .402360E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3855E-04 OSCILLATION LIMIT = 30.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.66 CRITERION= .3160
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .5467E-01 CRITERION= .3138 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 374
*** TIME = .410249E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3954E-04 OSCILLATION LIMIT = 31.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.69 CRITERION= .3157
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .5484E-01 CRITERION= .3135 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 375
*** TIME = .418139E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3863E-04 OSCILLATION LIMIT = 30.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.67 CRITERION= .3154
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .5457E-01 CRITERION= .3132 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 376
*** TIME = .426028E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3942E-04 OSCILLATION LIMIT = 31.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.70 CRITERION= .3151
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .5472E-01 CRITERION= .3129 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 377
*** TIME = .433917E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3868E-04 OSCILLATION LIMIT = 30.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.68 CRITERION= .3148
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .5457E-01 CRITERION= .3126 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 378
*** TIME = .441807E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3931E-04 OSCILLATION LIMIT = 31.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.71 CRITERION= .3145
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
HT FLOW CONVERGENCE VALUE= .5424E-01 CRITERION= .3124 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 379
*** TIME = .449696E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3871E-04 OSCILLATION LIMIT = 30.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.69 CRITERION= .3143
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01

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HT FLOW CONVERGENCE VALUE= .5381E-01 CRITERION= .3121 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 380
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3924E-04 OSCILLATION LIMIT = 30.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.72 CRITERION= .3140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5398E-01 CRITERION= .3118 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 381
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3873E-04 OSCILLATION LIMIT = 30.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.70 CRITERION= .3137
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5376E-01 CRITERION= .3115 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 382
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3917E-04 OSCILLATION LIMIT = 30.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.73 CRITERION= .3134
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5396E-01 CRITERION= .3112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 383
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3875E-04 OSCILLATION LIMIT = 30.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.71 CRITERION= .3131
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5376E-01 CRITERION= .3109 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 384
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3911E-04 OSCILLATION LIMIT = 30.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.75 CRITERION= .3128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5385E-01 CRITERION= .3106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 385
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3874E-04 OSCILLATION LIMIT = 30.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.72 CRITERION= .3126
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5365E-01 CRITERION= .3103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 386
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3905E-04 OSCILLATION LIMIT = 30.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.76 CRITERION= .3123
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5373E-01 CRITERION= .3101 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 387
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3873E-04 OSCILLATION LIMIT = 30.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.73 CRITERION= .3120
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5356E-01 CRITERION= .3097 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 388
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3900E-04 OSCILLATION LIMIT = 30.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.77 CRITERION= .3117
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5364E-01 CRITERION= .3095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 389
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3871E-04 OSCILLATION LIMIT = 30.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.74 CRITERION= .3114
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5324E-01 CRITERION= .3092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 390
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3895E-04 OSCILLATION LIMIT = 30.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.78 CRITERION= .3111
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5324E-01 CRITERION= .3089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 391
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3870E-04 OSCILLATION LIMIT = 30.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.75 CRITERION= .3108
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5316E-01 CRITERION= .3086 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 392
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3892E-04 OSCILLATION LIMIT = 30.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.79 CRITERION= .3105
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5326E-01 CRITERION= .3083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 393
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3869E-04 OSCILLATION LIMIT = 30.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.76 CRITERION= .3103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5314E-01 CRITERION= .3080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 394
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3888E-04 OSCILLATION LIMIT = 30.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.80 CRITERION= .3100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5329E-01 CRITERION= .3077 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 395
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3866E-04 OSCILLATION LIMIT = 30.50

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.77 CRITERION= .3097
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5313E-01 CRITERION= .3074 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 396
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3884E-04 OSCILLATION LIMIT = 30.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.81 CRITERION= .3094
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5320E-01 CRITERION= .3072 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 397
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3863E-04 OSCILLATION LIMIT = 30.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.78 CRITERION= .3091
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5290E-01 CRITERION= .3069 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 398
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3880E-04 OSCILLATION LIMIT = 30.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.82 CRITERION= .3088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5293E-01 CRITERION= .3066 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 399
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3860E-04 OSCILLATION LIMIT = 30.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.79 CRITERION= .3086
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5277E-01 CRITERION= .3063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 400
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3877E-04 OSCILLATION LIMIT = 30.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.83 CRITERION= .3082
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5283E-01 CRITERION= .3060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 401
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3858E-04 OSCILLATION LIMIT = 30.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.80 CRITERION= .3080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9365E-01
 HT FLOW CONVERGENCE VALUE= .5261E-01 CRITERION= .3057 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 402
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3873E-04 OSCILLATION LIMIT = 30.55

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:45:38 JUN 14, 1995 CP= 25169.240
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 16.95 CRITERION= .3062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4639E-01
 HT FLOW CONVERGENCE VALUE= .2399E-01 CRITERION= .3055 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 403
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8537E-04 OSCILLATION LIMIT = 67.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.92 CRITERION= .3059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2395E-01 CRITERION= .3052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 404
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8442E-04 OSCILLATION LIMIT = 66.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .3057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2378E-01 CRITERION= .3050 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 405
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8123E-04 OSCILLATION LIMIT = 64.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.93 CRITERION= .3054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2389E-01 CRITERION= .3047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 406
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8441E-04 OSCILLATION LIMIT = 66.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .3052
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2377E-01 CRITERION= .3045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 407
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8159E-04 OSCILLATION LIMIT = 64.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.93 CRITERION= .3049
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2382E-01 CRITERION= .3042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 408
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8422E-04 OSCILLATION LIMIT = 66.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .3047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2375E-01 CRITERION= .3040 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 409
 *** TIME = .686378E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8186E-04 OSCILLATION LIMIT = 64.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.93 CRITERION= .3045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2376E-01 CRITERION= .3037 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 410
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8405E-04 OSCILLATION LIMIT = 66.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .3042
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
HT FLOW CONVERGENCE VALUE= .2373E-01 CRITERION= .3035 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 411
*** TIME = .702157E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8205E-04 OSCILLATION LIMIT = 64.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.93 CRITERION= .3040
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
HT FLOW CONVERGENCE VALUE= .2369E-01 CRITERION= .3032 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 412
*** TIME = .710046E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8392E-04 OSCILLATION LIMIT = 66.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .3037
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
HT FLOW CONVERGENCE VALUE= .2342E-01 CRITERION= .3030 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 413
*** TIME = .717936E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8219E-04 OSCILLATION LIMIT = 64.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.94 CRITERION= .3035
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
HT FLOW CONVERGENCE VALUE= .2335E-01 CRITERION= .3027 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 414
*** TIME = .725825E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8381E-04 OSCILLATION LIMIT = 66.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .3032
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
HT FLOW CONVERGENCE VALUE= .2338E-01 CRITERION= .3025 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 415
*** TIME = .733715E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8230E-04 OSCILLATION LIMIT = 64.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.94 CRITERION= .3030
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
HT FLOW CONVERGENCE VALUE= .2330E-01 CRITERION= .3022 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 416
*** TIME = .741604E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8373E-04 OSCILLATION LIMIT = 66.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .3027
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
HT FLOW CONVERGENCE VALUE= .2334E-01 CRITERION= .3020 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 417
*** TIME = .749493E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8238E-04 OSCILLATION LIMIT = 64.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.94 CRITERION= .3025

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2325E-01 CRITERION= .3018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 418
 *** TIME = .757383E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8366E-04 OSCILLATION LIMIT = 66.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .3022
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2331E-01 CRITERION= .3015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 419
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8244E-04 OSCILLATION LIMIT = 65.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.94 CRITERION= .3020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2321E-01 CRITERION= .3013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 420
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8360E-04 OSCILLATION LIMIT = 65.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.98 CRITERION= .3017
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2327E-01 CRITERION= .3010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 421
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8249E-04 OSCILLATION LIMIT = 65.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.95 CRITERION= .3015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2317E-01 CRITERION= .3008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 422
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8355E-04 OSCILLATION LIMIT = 65.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.98 CRITERION= .3012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2324E-01 CRITERION= .3006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 423
 *** TIME = .796830E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8252E-04 OSCILLATION LIMIT = 65.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.95 CRITERION= .3010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2312E-01 CRITERION= .3003 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 424
 *** TIME = .804719E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8351E-04 OSCILLATION LIMIT = 65.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.98 CRITERION= .3008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2321E-01 CRITERION= .3001 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 425
 *** TIME = .812609E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8255E-04 OSCILLATION LIMIT = 65.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.95 CRITERION= .3005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2298E-01 CRITERION= .2998 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 426
 *** TIME = .820498E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8348E-04 OSCILLATION LIMIT = 65.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.98 CRITERION= .3003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2303E-01 CRITERION= .2996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 427
 *** TIME = .828387E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8257E-04 OSCILLATION LIMIT = 65.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.95 CRITERION= .3000
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2290E-01 CRITERION= .2993 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 428
 *** TIME = .836277E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8345E-04 OSCILLATION LIMIT = 65.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.99 CRITERION= .2998
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2301E-01 CRITERION= .2991 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 429
 *** TIME = .844166E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8259E-04 OSCILLATION LIMIT = 65.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .2996
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2289E-01 CRITERION= .2988 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 430
 *** TIME = .852056E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8343E-04 OSCILLATION LIMIT = 65.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.99 CRITERION= .2993
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2266E-01 CRITERION= .2986 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 431
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8260E-04 OSCILLATION LIMIT = 65.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .2991
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2253E-01 CRITERION= .2983 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 432
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8341E-04 OSCILLATION LIMIT = 65.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.99 CRITERION= .2988
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2262E-01 CRITERION= .2981 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 433
 *** TIME = .875724E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .8261E-04  OSCILLATION LIMIT = 65.18
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.96      CRITERION= .2986
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2249E-01 CRITERION= .2978    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  15  SUBSTEP  32 COMPLETED.  CUM ITER =  434
*** TIME = .883613E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .8340E-04  OSCILLATION LIMIT = 65.79
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.99      CRITERION= .2983
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2253E-01 CRITERION= .2976    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  15  SUBSTEP  33 COMPLETED.  CUM ITER =  435
*** TIME = .891503E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .8262E-04  OSCILLATION LIMIT = 65.18
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.96      CRITERION= .2981
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2228E-01 CRITERION= .2973    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  15  SUBSTEP  34 COMPLETED.  CUM ITER =  436
*** TIME = .899392E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .8338E-04  OSCILLATION LIMIT = 65.78
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.00      CRITERION= .2978
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2237E-01 CRITERION= .2971    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  15  SUBSTEP  35 COMPLETED.  CUM ITER =  437
*** TIME = .907281E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .8263E-04  OSCILLATION LIMIT = 65.19
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.97      CRITERION= .2976
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2225E-01 CRITERION= .2969    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  15  SUBSTEP  36 COMPLETED.  CUM ITER =  438
*** TIME = .915171E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .8337E-04  OSCILLATION LIMIT = 65.77
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.00      CRITERION= .2973
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2233E-01 CRITERION= .2966    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  15  SUBSTEP  37 COMPLETED.  CUM ITER =  439
*** TIME = .923060E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .8263E-04  OSCILLATION LIMIT = 65.19
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.97      CRITERION= .2971
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2217E-01 CRITERION= .2964    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  15  SUBSTEP  38 COMPLETED.  CUM ITER =  440
*** TIME = .930950E+08  TIME INC =  788940.
*** RESPONSE EIGENVALUE = .8335E-04  OSCILLATION LIMIT = 65.76
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 17.00      CRITERION= .2968
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= .4586E-01
  HT FLOW CONVERGENCE VALUE= .2222E-01 CRITERION= .2961    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 441
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8263E-04 OSCILLATION LIMIT = 65.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .2966
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4586E-01
 HT FLOW CONVERGENCE VALUE= .2211E-01 CRITERION= .2959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 442
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8334E-04 OSCILLATION LIMIT = 65.75

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:28:52 JUN 14, 1995 CP= 27724.480
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.927 CRITERION= .2960
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4815E-01
 HT FLOW CONVERGENCE VALUE= .1620E-01 CRITERION= .2957 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 443
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8033E-04 OSCILLATION LIMIT = 63.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.893 CRITERION= .2958
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4737E-01
 HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .2954 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 444
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8098E-04 OSCILLATION LIMIT = 63.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.927 CRITERION= .2956
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4620E-01
 HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .2953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 445
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8121E-04 OSCILLATION LIMIT = 64.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.894 CRITERION= .2954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4738E-01
 HT FLOW CONVERGENCE VALUE= .1597E-01 CRITERION= .2950 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 446
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8106E-04 OSCILLATION LIMIT = 63.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.928 CRITERION= .2952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4640E-01
 HT FLOW CONVERGENCE VALUE= .1575E-01 CRITERION= .2948 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 447
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8111E-04 OSCILLATION LIMIT = 63.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.895 CRITERION= .2950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4721E-01

HT FLOW CONVERGENCE VALUE= .1592E-01 CRITERION= .2946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 448
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8115E-04 OSCILLATION LIMIT = 64.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.929 CRITERION= .2948
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4656E-01
 HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .2944 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 449
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8104E-04 OSCILLATION LIMIT = 63.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.896 CRITERION= .2946
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4708E-01
 HT FLOW CONVERGENCE VALUE= .1587E-01 CRITERION= .2942 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 450
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8122E-04 OSCILLATION LIMIT = 64.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.930 CRITERION= .2943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4668E-01
 HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .2940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 451
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8098E-04 OSCILLATION LIMIT = 63.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.897 CRITERION= .2942
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4699E-01
 HT FLOW CONVERGENCE VALUE= .1583E-01 CRITERION= .2938 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 452
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8127E-04 OSCILLATION LIMIT = 64.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.931 CRITERION= .2939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4677E-01
 HT FLOW CONVERGENCE VALUE= .1575E-01 CRITERION= .2936 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 453
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8094E-04 OSCILLATION LIMIT = 63.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.898 CRITERION= .2937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4692E-01
 HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .2933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 454
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8131E-04 OSCILLATION LIMIT = 64.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.932 CRITERION= .2935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4684E-01
 HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .2932 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 455
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8091E-04 OSCILLATION LIMIT = 63.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.899 CRITERION= .2933
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4688E-01
 HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .2929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 456
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8133E-04 OSCILLATION LIMIT = 64.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.932 CRITERION= .2931
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4689E-01
 HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .2927 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 457
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8088E-04 OSCILLATION LIMIT = 63.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.899 CRITERION= .2929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4685E-01
 HT FLOW CONVERGENCE VALUE= .1571E-01 CRITERION= .2925 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 458
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8135E-04 OSCILLATION LIMIT = 64.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.933 CRITERION= .2927
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4692E-01
 HT FLOW CONVERGENCE VALUE= .1570E-01 CRITERION= .2923 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 459
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8087E-04 OSCILLATION LIMIT = 63.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.900 CRITERION= .2925
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4683E-01
 HT FLOW CONVERGENCE VALUE= .1565E-01 CRITERION= .2921 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 460
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8137E-04 OSCILLATION LIMIT = 64.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.934 CRITERION= .2922
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4695E-01
 HT FLOW CONVERGENCE VALUE= .1565E-01 CRITERION= .2919 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 461
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8086E-04 OSCILLATION LIMIT = 63.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.901 CRITERION= .2921
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4682E-01
 HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .2917 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 462
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8137E-04 OSCILLATION LIMIT = 64.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.935 CRITERION= .2918
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4697E-01
 HT FLOW CONVERGENCE VALUE= .1563E-01 CRITERION= .2915 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 463
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8085E-04 OSCILLATION LIMIT = 63.78

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.902 CRITERION= .2916
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4681E-01
 HT FLOW CONVERGENCE VALUE= .1559E-01 CRITERION= .2912 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 464

*** TIME = .112030E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8138E-04 OSCILLATION LIMIT = 64.20

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.936 CRITERION= .2914
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4699E-01
 HT FLOW CONVERGENCE VALUE= .1557E-01 CRITERION= .2911 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 465

*** TIME = .112818E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8084E-04 OSCILLATION LIMIT = 63.78

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.903 CRITERION= .2912
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4682E-01
 HT FLOW CONVERGENCE VALUE= .1551E-01 CRITERION= .2908 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 466

*** TIME = .113607E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8138E-04 OSCILLATION LIMIT = 64.21

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.936 CRITERION= .2910
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4700E-01
 HT FLOW CONVERGENCE VALUE= .1553E-01 CRITERION= .2906 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 467

*** TIME = .114396E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8084E-04 OSCILLATION LIMIT = 63.78

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.904 CRITERION= .2908
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4682E-01
 HT FLOW CONVERGENCE VALUE= .1548E-01 CRITERION= .2904 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 468

*** TIME = .115185E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8139E-04 OSCILLATION LIMIT = 64.21

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.937 CRITERION= .2906
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4701E-01
 HT FLOW CONVERGENCE VALUE= .1551E-01 CRITERION= .2902 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 469

*** TIME = .115974E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8084E-04 OSCILLATION LIMIT = 63.78

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.904 CRITERION= .2904
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4683E-01
 HT FLOW CONVERGENCE VALUE= .1546E-01 CRITERION= .2900 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 470

*** TIME = .116763E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .8139E-04 OSCILLATION LIMIT = 64.21

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.938 CRITERION= .2901
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4702E-01
 HT FLOW CONVERGENCE VALUE= .1550E-01 CRITERION= .2898 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 471


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*** TIME = .117552E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8084E-04    OSCILLATION LIMIT = 63.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.905    CRITERION= .2900
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4683E-01
    HT FLOW CONVERGENCE VALUE= .1544E-01    CRITERION= .2896    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 472
*** TIME = .118341E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8139E-04    OSCILLATION LIMIT = 64.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.939    CRITERION= .2897
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4702E-01
    HT FLOW CONVERGENCE VALUE= .1548E-01    CRITERION= .2894    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 473
*** TIME = .119130E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8084E-04    OSCILLATION LIMIT = 63.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.906    CRITERION= .2895
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4684E-01
    HT FLOW CONVERGENCE VALUE= .1542E-01    CRITERION= .2891    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 474
*** TIME = .119919E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8138E-04    OSCILLATION LIMIT = 64.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.940    CRITERION= .2893
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4703E-01
    HT FLOW CONVERGENCE VALUE= .1545E-01    CRITERION= .2890    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 475
*** TIME = .120708E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8084E-04    OSCILLATION LIMIT = 63.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.907    CRITERION= .2891
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4685E-01
    HT FLOW CONVERGENCE VALUE= .1539E-01    CRITERION= .2887    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 476
*** TIME = .121497E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8138E-04    OSCILLATION LIMIT = 64.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.941    CRITERION= .2889
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4703E-01
    HT FLOW CONVERGENCE VALUE= .1543E-01    CRITERION= .2885    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 477
*** TIME = .122286E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8084E-04    OSCILLATION LIMIT = 63.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.908    CRITERION= .2887
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4686E-01
    HT FLOW CONVERGENCE VALUE= .1537E-01    CRITERION= .2883    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 478
*** TIME = .123075E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8138E-04    OSCILLATION LIMIT = 64.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.941    CRITERION= .2885
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4704E-01
    HT FLOW CONVERGENCE VALUE= .1541E-01    CRITERION= .2881    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 479
*** TIME = .123864E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8084E-04 OSCILLATION LIMIT = 63.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.909 CRITERION= .2883
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4688E-01
HT FLOW CONVERGENCE VALUE= .1534E-01 CRITERION= .2879 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 480
*** TIME = .124653E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8138E-04 OSCILLATION LIMIT = 64.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.942 CRITERION= .2880
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4705E-01
HT FLOW CONVERGENCE VALUE= .1538E-01 CRITERION= .2877 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 481
*** TIME = .125441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8084E-04 OSCILLATION LIMIT = 63.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.909 CRITERION= .2879
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4689E-01
HT FLOW CONVERGENCE VALUE= .1531E-01 CRITERION= .2875 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 482
*** TIME = .126230E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8138E-04 OSCILLATION LIMIT = 64.20
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 07:12:09 JUN 14, 1995 CP= 30279.990
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 6.561 CRITERION= .2875
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4239E-01
HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .2873 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 483
*** TIME = .127019E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7179E-04 OSCILLATION LIMIT = 56.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.528 CRITERION= .2874
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4174E-01
HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .2871 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 484
*** TIME = .127808E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7290E-04 OSCILLATION LIMIT = 57.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.562 CRITERION= .2872
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4211E-01
HT FLOW CONVERGENCE VALUE= .1264E-01 CRITERION= .2870 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 485
*** TIME = .128597E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7236E-04 OSCILLATION LIMIT = 57.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.528 CRITERION= .2870
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4182E-01
 HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .2868 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 486
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7287E-04 OSCILLATION LIMIT = 57.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.562 CRITERION= .2868
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1263E-01 CRITERION= .2866 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 487
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7236E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.528 CRITERION= .2867
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4185E-01
 HT FLOW CONVERGENCE VALUE= .1260E-01 CRITERION= .2864 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 488
 *** TIME = .130964E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7286E-04 OSCILLATION LIMIT = 57.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.562 CRITERION= .2865
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .2863 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 489
 *** TIME = .131753E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.529 CRITERION= .2863
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4186E-01
 HT FLOW CONVERGENCE VALUE= .1258E-01 CRITERION= .2861 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 490
 *** TIME = .132542E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7285E-04 OSCILLATION LIMIT = 57.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.563 CRITERION= .2862
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4209E-01
 HT FLOW CONVERGENCE VALUE= .1260E-01 CRITERION= .2859 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 491
 *** TIME = .133331E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.529 CRITERION= .2860
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4188E-01
 HT FLOW CONVERGENCE VALUE= .1257E-01 CRITERION= .2857 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 492
 *** TIME = .134120E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7285E-04 OSCILLATION LIMIT = 57.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.563 CRITERION= .2858
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1258E-01 CRITERION= .2856 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 493
 *** TIME = .134909E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.530 CRITERION= .2857
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4189E-01
 HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .2854 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 494
 *** TIME = .135698E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7284E-04 OSCILLATION LIMIT = 57.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.563 CRITERION= .2855
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1257E-01 CRITERION= .2853 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 495
 *** TIME = .136487E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.530 CRITERION= .2853
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4191E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .2851 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 496
 *** TIME = .137276E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7284E-04 OSCILLATION LIMIT = 57.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.564 CRITERION= .2851
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1258E-01 CRITERION= .2849 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 497
 *** TIME = .138065E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.530 CRITERION= .2850
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4192E-01
 HT FLOW CONVERGENCE VALUE= .1257E-01 CRITERION= .2847 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 498
 *** TIME = .138853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7283E-04 OSCILLATION LIMIT = 57.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.564 CRITERION= .2848
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .2846 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 499
 *** TIME = .139642E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.531 CRITERION= .2846
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4194E-01
 HT FLOW CONVERGENCE VALUE= .1258E-01 CRITERION= .2844 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 500
 *** TIME = .140431E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7283E-04 OSCILLATION LIMIT = 57.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.564 CRITERION= .2844
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1260E-01 CRITERION= .2842 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 501
 *** TIME = .141220E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.531 CRITERION= .2843
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4195E-01
 HT FLOW CONVERGENCE VALUE= .1257E-01 CRITERION= .2840 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 502
 *** TIME = .142009E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7282E-04 OSCILLATION LIMIT = 57.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.565 CRITERION= .2841
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .2839 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 503
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.531 CRITERION= .2839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4196E-01
 HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .2837 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 504
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7282E-04 OSCILLATION LIMIT = 57.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.565 CRITERION= .2838
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4210E-01
 HT FLOW CONVERGENCE VALUE= .1257E-01 CRITERION= .2835 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 505
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.532 CRITERION= .2836
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4197E-01
 HT FLOW CONVERGENCE VALUE= .1253E-01 CRITERION= .2833 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 506
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7282E-04 OSCILLATION LIMIT = 57.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.566 CRITERION= .2834
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4211E-01
 HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .2832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 507
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.532 CRITERION= .2833
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4198E-01
 HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .2830 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 508
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7281E-04 OSCILLATION LIMIT = 57.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.566 CRITERION= .2831
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4211E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .2828 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 509
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.533 CRITERION= .2829
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4199E-01
 HT FLOW CONVERGENCE VALUE= .1250E-01 CRITERION= .2827 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 510
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7281E-04 OSCILLATION LIMIT = 57.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.566 CRITERION= .2827
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4211E-01
 HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .2825 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 511
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.533 CRITERION= .2826
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4200E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2823 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 512
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7281E-04 OSCILLATION LIMIT = 57.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.567 CRITERION= .2824
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4212E-01
 HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .2822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 513
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7237E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.533 CRITERION= .2822
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4201E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 514
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7280E-04 OSCILLATION LIMIT = 57.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.567 CRITERION= .2820
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4212E-01
 HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .2818 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 515
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7236E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.534 CRITERION= .2819
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4202E-01
 HT FLOW CONVERGENCE VALUE= .1250E-01 CRITERION= .2816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 516
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7280E-04 OSCILLATION LIMIT = 57.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.567 CRITERION= .2817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4212E-01

HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .2815 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 517
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7236E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.534 CRITERION= .2815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4203E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2813 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 518
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7280E-04 OSCILLATION LIMIT = 57.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.568 CRITERION= .2814
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4213E-01
 HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .2811 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 519
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7236E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.534 CRITERION= .2812
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4204E-01
 HT FLOW CONVERGENCE VALUE= .1232E-01 CRITERION= .2809 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 520
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7279E-04 OSCILLATION LIMIT = 57.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.568 CRITERION= .2810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4213E-01
 HT FLOW CONVERGENCE VALUE= .1226E-01 CRITERION= .2808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 521
 *** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7236E-04 OSCILLATION LIMIT = 57.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.535 CRITERION= .2809
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4205E-01
 HT FLOW CONVERGENCE VALUE= .1218E-01 CRITERION= .2806 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 522
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7279E-04 OSCILLATION LIMIT = 57.42

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:04:22 JUN 14, 1995 CP= 32882.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 4.465 CRITERION= .2806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5775E-01
 HT FLOW CONVERGENCE VALUE= .1628E-01 CRITERION= .2804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 523
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5422E-04 OSCILLATION LIMIT = 42.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.431 CRITERION= .2804
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5813E-01
 HT FLOW CONVERGENCE VALUE= .1661E-01 CRITERION= .2802 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 524
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5379E-04 OSCILLATION LIMIT = 42.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.465 CRITERION= .2802
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5605E-01
 HT FLOW CONVERGENCE VALUE= .1597E-01 CRITERION= .2800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 525
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5443E-04 OSCILLATION LIMIT = 42.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.432 CRITERION= .2800
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5797E-01
 HT FLOW CONVERGENCE VALUE= .1652E-01 CRITERION= .2798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 526
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5388E-04 OSCILLATION LIMIT = 42.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.465 CRITERION= .2798
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5633E-01
 HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .2796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 527
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5433E-04 OSCILLATION LIMIT = 42.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.432 CRITERION= .2796
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5775E-01
 HT FLOW CONVERGENCE VALUE= .1643E-01 CRITERION= .2794 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 528
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5396E-04 OSCILLATION LIMIT = 42.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.466 CRITERION= .2794
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5654E-01
 HT FLOW CONVERGENCE VALUE= .1604E-01 CRITERION= .2792 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 529
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5426E-04 OSCILLATION LIMIT = 42.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.432 CRITERION= .2792
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5759E-01
 HT FLOW CONVERGENCE VALUE= .1635E-01 CRITERION= .2790 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 530
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5401E-04 OSCILLATION LIMIT = 42.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.466 CRITERION= .2790
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5672E-01
 HT FLOW CONVERGENCE VALUE= .1603E-01 CRITERION= .2788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 531
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5420E-04 OSCILLATION LIMIT = 42.76

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.432 CRITERION= .2788
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5748E-01
 HT FLOW CONVERGENCE VALUE= .1606E-01 CRITERION= .2786 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 532

*** TIME = .165677E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5405E-04 OSCILLATION LIMIT = 42.65

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.466 CRITERION= .2786
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5685E-01
 HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .2784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 533

*** TIME = .166466E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5416E-04 OSCILLATION LIMIT = 42.73

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.432 CRITERION= .2784
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5741E-01
 HT FLOW CONVERGENCE VALUE= .1597E-01 CRITERION= .2782 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 534

*** TIME = .167255E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5408E-04 OSCILLATION LIMIT = 42.67

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.466 CRITERION= .2782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5696E-01
 HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .2780 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 535

*** TIME = .168044E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5412E-04 OSCILLATION LIMIT = 42.70

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.433 CRITERION= .2780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5735E-01
 HT FLOW CONVERGENCE VALUE= .1593E-01 CRITERION= .2778 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 536

*** TIME = .168833E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5411E-04 OSCILLATION LIMIT = 42.69

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.466 CRITERION= .2778
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5704E-01
 HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .2776 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 537

*** TIME = .169622E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5410E-04 OSCILLATION LIMIT = 42.68

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.433 CRITERION= .2776
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5730E-01
 HT FLOW CONVERGENCE VALUE= .1590E-01 CRITERION= .2774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 538

*** TIME = .170411E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5412E-04 OSCILLATION LIMIT = 42.70

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.466 CRITERION= .2774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5709E-01
 HT FLOW CONVERGENCE VALUE= .1579E-01 CRITERION= .2772 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 539

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*** TIME = .171200E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5408E-04    OSCILLATION LIMIT = 42.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.433    CRITERION= .2772
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5727E-01
    HT FLOW CONVERGENCE VALUE= .1586E-01    CRITERION= .2769    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 540
*** TIME = .171989E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5413E-04    OSCILLATION LIMIT = 42.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.467    CRITERION= .2770
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5714E-01
    HT FLOW CONVERGENCE VALUE= .1577E-01    CRITERION= .2768    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 541
*** TIME = .172778E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5406E-04    OSCILLATION LIMIT = 42.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.433    CRITERION= .2768
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5725E-01
    HT FLOW CONVERGENCE VALUE= .1583E-01    CRITERION= .2765    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 542
*** TIME = .173567E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5414E-04    OSCILLATION LIMIT = 42.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.467    CRITERION= .2766
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5718E-01
    HT FLOW CONVERGENCE VALUE= .1576E-01    CRITERION= .2764    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 543
*** TIME = .174356E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5405E-04    OSCILLATION LIMIT = 42.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.433    CRITERION= .2764
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5724E-01
    HT FLOW CONVERGENCE VALUE= .1580E-01    CRITERION= .2761    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 544
*** TIME = .175145E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5415E-04    OSCILLATION LIMIT = 42.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.467    CRITERION= .2762
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5721E-01
    HT FLOW CONVERGENCE VALUE= .1574E-01    CRITERION= .2760    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 545
*** TIME = .175934E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5404E-04    OSCILLATION LIMIT = 42.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.433    CRITERION= .2760
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5724E-01
    HT FLOW CONVERGENCE VALUE= .1578E-01    CRITERION= .2757    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 546
*** TIME = .176723E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5415E-04    OSCILLATION LIMIT = 42.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 4.467    CRITERION= .2758
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5723E-01
    HT FLOW CONVERGENCE VALUE= .1574E-01    CRITERION= .2756    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 547
*** TIME = .177512E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5403E-04 OSCILLATION LIMIT = 42.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.434 CRITERION= .2756
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5724E-01
HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .2753 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 548
*** TIME = .178300E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5415E-04 OSCILLATION LIMIT = 42.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.467 CRITERION= .2754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5725E-01
HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .2751 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 549
*** TIME = .179089E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5402E-04 OSCILLATION LIMIT = 42.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.434 CRITERION= .2752
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5724E-01
HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .2749 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 550
*** TIME = .179878E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5415E-04 OSCILLATION LIMIT = 42.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.467 CRITERION= .2750
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5727E-01
HT FLOW CONVERGENCE VALUE= .1570E-01 CRITERION= .2747 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 551
*** TIME = .180667E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5402E-04 OSCILLATION LIMIT = 42.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.434 CRITERION= .2748
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5725E-01
HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .2745 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 552
*** TIME = .181456E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5415E-04 OSCILLATION LIMIT = 42.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.467 CRITERION= .2745
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5728E-01
HT FLOW CONVERGENCE VALUE= .1569E-01 CRITERION= .2743 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 553
*** TIME = .182245E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5401E-04 OSCILLATION LIMIT = 42.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.434 CRITERION= .2744
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5726E-01
HT FLOW CONVERGENCE VALUE= .1569E-01 CRITERION= .2741 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 554
*** TIME = .183034E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5415E-04 OSCILLATION LIMIT = 42.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.468 CRITERION= .2741

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5730E-01
 HT FLOW CONVERGENCE VALUE= .1566E-01 CRITERION= .2739 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 555
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5401E-04 OSCILLATION LIMIT = 42.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.434 CRITERION= .2740
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5727E-01
 HT FLOW CONVERGENCE VALUE= .1567E-01 CRITERION= .2737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 556
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5415E-04 OSCILLATION LIMIT = 42.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.468 CRITERION= .2737
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5731E-01
 HT FLOW CONVERGENCE VALUE= .1564E-01 CRITERION= .2735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 557
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5400E-04 OSCILLATION LIMIT = 42.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.434 CRITERION= .2736
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5728E-01
 HT FLOW CONVERGENCE VALUE= .1564E-01 CRITERION= .2733 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 558
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5415E-04 OSCILLATION LIMIT = 42.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.468 CRITERION= .2733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5732E-01
 HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .2731 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 559
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5400E-04 OSCILLATION LIMIT = 42.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.435 CRITERION= .2732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5729E-01
 HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .2729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 560
 *** TIME = .187768E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5414E-04 OSCILLATION LIMIT = 42.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.468 CRITERION= .2729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5734E-01
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .2727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 561
 *** TIME = .188557E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5399E-04 OSCILLATION LIMIT = 42.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.435 CRITERION= .2727
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5730E-01
 HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .2725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 562
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5414E-04 OSCILLATION LIMIT = 42.71

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=IP 9000/7XX 09:00:10 JUN 14, 1995 CP= 35500.670
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4476E-01
 HT FLOW CONVERGENCE VALUE= .1242E-01 CRITERION= .2724 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 563
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5252E-04 OSCILLATION LIMIT = 41.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.286 CRITERION= .2724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4407E-01
 HT FLOW CONVERGENCE VALUE= .1204E-01 CRITERION= .2722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 564
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5343E-04 OSCILLATION LIMIT = 42.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2722
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4555E-01
 HT FLOW CONVERGENCE VALUE= .1232E-01 CRITERION= .2720 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 565
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5265E-04 OSCILLATION LIMIT = 41.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.286 CRITERION= .2721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4424E-01
 HT FLOW CONVERGENCE VALUE= .1188E-01 CRITERION= .2719 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 566
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5335E-04 OSCILLATION LIMIT = 42.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2719
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4540E-01
 HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .2717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 567
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5272E-04 OSCILLATION LIMIT = 41.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.286 CRITERION= .2717
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4439E-01
 HT FLOW CONVERGENCE VALUE= .1189E-01 CRITERION= .2715 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 568
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5328E-04 OSCILLATION LIMIT = 42.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2716
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4528E-01
 HT FLOW CONVERGENCE VALUE= .1207E-01 CRITERION= .2714 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 569
 *** TIME = .194868E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .5276E-04 OSCILLATION LIMIT = 41.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.286 CRITERION= .2714
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4451E-01
 HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .2712 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 570
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5324E-04 OSCILLATION LIMIT = 42.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2712
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4519E-01
 HT FLOW CONVERGENCE VALUE= .1204E-01 CRITERION= .2711 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 571
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5280E-04 OSCILLATION LIMIT = 41.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.286 CRITERION= .2711
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4460E-01
 HT FLOW CONVERGENCE VALUE= .1191E-01 CRITERION= .2709 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 572
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5320E-04 OSCILLATION LIMIT = 41.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4512E-01
 HT FLOW CONVERGENCE VALUE= .1201E-01 CRITERION= .2708 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 573
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5282E-04 OSCILLATION LIMIT = 41.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4468E-01
 HT FLOW CONVERGENCE VALUE= .1191E-01 CRITERION= .2706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 574
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5317E-04 OSCILLATION LIMIT = 41.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4508E-01
 HT FLOW CONVERGENCE VALUE= .1199E-01 CRITERION= .2705 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 575
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5284E-04 OSCILLATION LIMIT = 41.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2705
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4473E-01
 HT FLOW CONVERGENCE VALUE= .1191E-01 CRITERION= .2703 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 576
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5315E-04 OSCILLATION LIMIT = 41.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2703
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4504E-01
 HT FLOW CONVERGENCE VALUE= .1197E-01 CRITERION= .2702 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 577
*** TIME = .201180E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5286E-04 OSCILLATION LIMIT = 41.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2702
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4478E-01
HT FLOW CONVERGENCE VALUE= .1191E-01 CRITERION= .2700 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 578
*** TIME = .201969E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5313E-04 OSCILLATION LIMIT = 41.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2700
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4502E-01
HT FLOW CONVERGENCE VALUE= .1195E-01 CRITERION= .2698 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 579
*** TIME = .202758E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5287E-04 OSCILLATION LIMIT = 41.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2699
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4481E-01
HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .2697 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 580
*** TIME = .203547E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5312E-04 OSCILLATION LIMIT = 41.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2697
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4500E-01
HT FLOW CONVERGENCE VALUE= .1193E-01 CRITERION= .2695 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 581
*** TIME = .204335E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5287E-04 OSCILLATION LIMIT = 41.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2695
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4484E-01
HT FLOW CONVERGENCE VALUE= .1190E-01 CRITERION= .2693 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 582
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5311E-04 OSCILLATION LIMIT = 41.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.320 CRITERION= .2694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4499E-01
HT FLOW CONVERGENCE VALUE= .1191E-01 CRITERION= .2692 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 583
*** TIME = .205913E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2692
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4486E-01
HT FLOW CONVERGENCE VALUE= .1189E-01 CRITERION= .2690 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 584
*** TIME = .206702E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5310E-04 OSCILLATION LIMIT = 41.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4498E-01

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HT FLOW CONVERGENCE VALUE= .1188E-01 CRITERION= .2689 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 585
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2689
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4488E-01
 HT FLOW CONVERGENCE VALUE= .1185E-01 CRITERION= .2687 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 586
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5309E-04 OSCILLATION LIMIT = 41.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2687
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4498E-01
 HT FLOW CONVERGENCE VALUE= .1185E-01 CRITERION= .2686 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 587
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2686
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4490E-01
 HT FLOW CONVERGENCE VALUE= .1183E-01 CRITERION= .2684 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 588
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5308E-04 OSCILLATION LIMIT = 41.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2684
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4497E-01
 HT FLOW CONVERGENCE VALUE= .1184E-01 CRITERION= .2683 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 589
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2683
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4491E-01
 HT FLOW CONVERGENCE VALUE= .1182E-01 CRITERION= .2681 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 590
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5308E-04 OSCILLATION LIMIT = 41.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2681
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4497E-01
 HT FLOW CONVERGENCE VALUE= .1182E-01 CRITERION= .2680 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 591
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.287 CRITERION= .2680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4493E-01
 HT FLOW CONVERGENCE VALUE= .1181E-01 CRITERION= .2678 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 592
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5308E-04 OSCILLATION LIMIT = 41.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2678
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4498E-01
 HT FLOW CONVERGENCE VALUE= .1181E-01 CRITERION= .2676 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 593
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.288 CRITERION= .2677
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4494E-01
 HT FLOW CONVERGENCE VALUE= .1180E-01 CRITERION= .2675 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 594
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5307E-04 OSCILLATION LIMIT = 41.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2675
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4498E-01
 HT FLOW CONVERGENCE VALUE= .1180E-01 CRITERION= .2673 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 595
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.288 CRITERION= .2673
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4495E-01
 HT FLOW CONVERGENCE VALUE= .1179E-01 CRITERION= .2671 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 596
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5307E-04 OSCILLATION LIMIT = 41.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2672
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4499E-01
 HT FLOW CONVERGENCE VALUE= .1179E-01 CRITERION= .2670 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 597
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.288 CRITERION= .2670
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4496E-01
 HT FLOW CONVERGENCE VALUE= .1178E-01 CRITERION= .2668 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 598
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5306E-04 OSCILLATION LIMIT = 41.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2668
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4499E-01
 HT FLOW CONVERGENCE VALUE= .1177E-01 CRITERION= .2667 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 599
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.288 CRITERION= .2667
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4497E-01
 HT FLOW CONVERGENCE VALUE= .1177E-01 CRITERION= .2665 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 600
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5306E-04 OSCILLATION LIMIT = 41.86

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.321 CRITERION= .2665
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4500E-01
 HT FLOW CONVERGENCE VALUE= .1176E-01 CRITERION= .2664 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 601
 *** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5288E-04 OSCILLATION LIMIT = 41.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.288 CRITERION= .2664
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4498E-01
 HT FLOW CONVERGENCE VALUE= .1175E-01 CRITERION= .2662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 602
 *** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5306E-04 OSCILLATION LIMIT = 41.86

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 09:45:54 JUN 14, 1995 CP= 38108.230
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 3.726 CRITERION= .2662
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4126E-01
 HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .2661 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 603
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5709E-04 OSCILLATION LIMIT = 45.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.693 CRITERION= .2661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4111E-01
 HT FLOW CONVERGENCE VALUE= .1064E-01 CRITERION= .2659 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 604
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5754E-04 OSCILLATION LIMIT = 45.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.726 CRITERION= .2659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4163E-01
 HT FLOW CONVERGENCE VALUE= .1077E-01 CRITERION= .2658 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 605
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5702E-04 OSCILLATION LIMIT = 44.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.693 CRITERION= .2658
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4116E-01
 HT FLOW CONVERGENCE VALUE= .1065E-01 CRITERION= .2656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 606
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5751E-04 OSCILLATION LIMIT = 45.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.726 CRITERION= .2656
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4158E-01
 HT FLOW CONVERGENCE VALUE= .1075E-01 CRITERION= .2655 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 607

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*** TIME = .224848E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5705E-04    OSCILLATION LIMIT = 45.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.693    CRITERION= .2655
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4122E-01
    HT FLOW CONVERGENCE VALUE= .1065E-01    CRITERION= .2653    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 608
*** TIME = .225637E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5747E-04    OSCILLATION LIMIT = 45.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.726    CRITERION= .2653
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4153E-01
    HT FLOW CONVERGENCE VALUE= .1073E-01    CRITERION= .2652    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 609
*** TIME = .226426E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5707E-04    OSCILLATION LIMIT = 45.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.693    CRITERION= .2652
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4127E-01
    HT FLOW CONVERGENCE VALUE= .1065E-01    CRITERION= .2650    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 610
*** TIME = .227215E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5745E-04    OSCILLATION LIMIT = 45.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.727    CRITERION= .2650
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
    HT FLOW CONVERGENCE VALUE= .1071E-01    CRITERION= .2649    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 611
*** TIME = .228004E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5709E-04    OSCILLATION LIMIT = 45.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.694    CRITERION= .2649
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4131E-01
    HT FLOW CONVERGENCE VALUE= .1064E-01    CRITERION= .2647    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 612
*** TIME = .228793E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5743E-04    OSCILLATION LIMIT = 45.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.727    CRITERION= .2647
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4148E-01
    HT FLOW CONVERGENCE VALUE= .1069E-01    CRITERION= .2646    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 613
*** TIME = .229582E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5710E-04    OSCILLATION LIMIT = 45.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.694    CRITERION= .2646
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4134E-01
    HT FLOW CONVERGENCE VALUE= .1064E-01    CRITERION= .2644    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 614
*** TIME = .230371E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5741E-04    OSCILLATION LIMIT = 45.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.727    CRITERION= .2644
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4147E-01
    HT FLOW CONVERGENCE VALUE= .1067E-01    CRITERION= .2643    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 615
*** TIME = .231159E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5711E-04 OSCILLATION LIMIT = 45.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.694 CRITERION= .2643
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4137E-01
HT FLOW CONVERGENCE VALUE= .1063E-01 CRITERION= .2641 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 616
*** TIME = .231948E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5740E-04 OSCILLATION LIMIT = 45.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.727 CRITERION= .2641
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146E-01
HT FLOW CONVERGENCE VALUE= .1066E-01 CRITERION= .2640 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 617
*** TIME = .232737E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5711E-04 OSCILLATION LIMIT = 45.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.694 CRITERION= .2640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4139E-01
HT FLOW CONVERGENCE VALUE= .1062E-01 CRITERION= .2638 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 618
*** TIME = .233526E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5739E-04 OSCILLATION LIMIT = 45.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.727 CRITERION= .2638
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146E-01
HT FLOW CONVERGENCE VALUE= .1065E-01 CRITERION= .2637 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 619
*** TIME = .234315E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.694 CRITERION= .2637
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4141E-01
HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .2635 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 620
*** TIME = .235104E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5738E-04 OSCILLATION LIMIT = 45.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.727 CRITERION= .2635
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146E-01
HT FLOW CONVERGENCE VALUE= .1063E-01 CRITERION= .2634 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 621
*** TIME = .235893E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.694 CRITERION= .2634
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4142E-01
HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .2632 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 622
*** TIME = .236682E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5738E-04 OSCILLATION LIMIT = 45.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.727 CRITERION= .2632

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146E-01
 HT FLOW CONVERGENCE VALUE= .1062E-01 CRITERION= .2631 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 623
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.694 CRITERION= .2631
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4143E-01
 HT FLOW CONVERGENCE VALUE= .1060E-01 CRITERION= .2629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 624
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5737E-04 OSCILLATION LIMIT = 45.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.727 CRITERION= .2629
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146E-01
 HT FLOW CONVERGENCE VALUE= .1061E-01 CRITERION= .2628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 625
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.694 CRITERION= .2628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4144E-01
 HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .2626 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 626
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5737E-04 OSCILLATION LIMIT = 45.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.727 CRITERION= .2626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146E-01
 HT FLOW CONVERGENCE VALUE= .1060E-01 CRITERION= .2625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 627
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4145E-01
 HT FLOW CONVERGENCE VALUE= .1058E-01 CRITERION= .2623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 628
 *** TIME = .241416E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5736E-04 OSCILLATION LIMIT = 45.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.728 CRITERION= .2623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4147E-01
 HT FLOW CONVERGENCE VALUE= .1059E-01 CRITERION= .2622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 629
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2622
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4147E-01
 HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .2620 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 630
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5736E-04 OSCILLATION LIMIT = 45.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.728 CRITERION= .2620
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4147E-01
 HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .2619 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 631
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2619
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4147E-01
 HT FLOW CONVERGENCE VALUE= .1056E-01 CRITERION= .2617 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 632
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5736E-04 OSCILLATION LIMIT = 45.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.728 CRITERION= .2617
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4148E-01
 HT FLOW CONVERGENCE VALUE= .1057E-01 CRITERION= .2616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 633
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5712E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2616
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4148E-01
 HT FLOW CONVERGENCE VALUE= .1055E-01 CRITERION= .2614 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 634
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5735E-04 OSCILLATION LIMIT = 45.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.728 CRITERION= .2615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4148E-01
 HT FLOW CONVERGENCE VALUE= .1055E-01 CRITERION= .2613 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 635
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5711E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2613
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4149E-01
 HT FLOW CONVERGENCE VALUE= .1054E-01 CRITERION= .2611 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 636
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5735E-04 OSCILLATION LIMIT = 45.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.728 CRITERION= .2612
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4149E-01
 HT FLOW CONVERGENCE VALUE= .1054E-01 CRITERION= .2610 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 637
 *** TIME = .248516E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5711E-04 OSCILLATION LIMIT = 45.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2610
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
 HT FLOW CONVERGENCE VALUE= .1053E-01 CRITERION= .2608 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 638
 *** TIME = .249305E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .5735E-04 OSCILLATION LIMIT = 45.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.728 CRITERION= .2609
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
HT FLOW CONVERGENCE VALUE= .1053E-01 CRITERION= .2607 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 639
*** TIME = .250094E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5711E-04 OSCILLATION LIMIT = 45.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2607
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151E-01
HT FLOW CONVERGENCE VALUE= .1051E-01 CRITERION= .2605 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 640
*** TIME = .250883E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5734E-04 OSCILLATION LIMIT = 45.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.728 CRITERION= .2606
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151E-01
HT FLOW CONVERGENCE VALUE= .1052E-01 CRITERION= .2604 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 641
*** TIME = .251672E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5711E-04 OSCILLATION LIMIT = 45.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.695 CRITERION= .2604
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4152E-01
HT FLOW CONVERGENCE VALUE= .1051E-01 CRITERION= .2602 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 642
*** TIME = .252461E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .5734E-04 OSCILLATION LIMIT = 45.24
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:30:36 JUN 14, 1995 CP= 40700.010
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 3.285 CRITERION= .2603
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5505E-01
HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .2601 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 643
*** TIME = .253250E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2080E-04 OSCILLATION LIMIT = 16.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2601
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5516E-01
HT FLOW CONVERGENCE VALUE= .1777E-01 CRITERION= .2600 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 644
*** TIME = .254039E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2078E-04 OSCILLATION LIMIT = 16.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5274E-01
HT FLOW CONVERGENCE VALUE= .1702E-01 CRITERION= .2598 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
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*** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 645
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2029E-04 OSCILLATION LIMIT = 16.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2599
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5503E-01
 HT FLOW CONVERGENCE VALUE= .1769E-01 CRITERION= .2597 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 646
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2076E-04 OSCILLATION LIMIT = 16.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5307E-01
 HT FLOW CONVERGENCE VALUE= .1709E-01 CRITERION= .2596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 647
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2035E-04 OSCILLATION LIMIT = 16.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2596
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5476E-01
 HT FLOW CONVERGENCE VALUE= .1760E-01 CRITERION= .2594 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 648
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2071E-04 OSCILLATION LIMIT = 16.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5332E-01
 HT FLOW CONVERGENCE VALUE= .1713E-01 CRITERION= .2593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 649
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2039E-04 OSCILLATION LIMIT = 16.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5455E-01
 HT FLOW CONVERGENCE VALUE= .1754E-01 CRITERION= .2591 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 650
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2068E-04 OSCILLATION LIMIT = 16.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5352E-01
 HT FLOW CONVERGENCE VALUE= .1717E-01 CRITERION= .2590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 651
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2043E-04 OSCILLATION LIMIT = 16.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5440E-01
 HT FLOW CONVERGENCE VALUE= .1749E-01 CRITERION= .2588 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 652
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2065E-04 OSCILLATION LIMIT = 16.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5366E-01

HT FLOW CONVERGENCE VALUE= .1719E-01 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 653
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2046E-04 OSCILLATION LIMIT = 16.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5429E-01
 HT FLOW CONVERGENCE VALUE= .1744E-01 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 654
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2063E-04 OSCILLATION LIMIT = 16.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5378E-01
 HT FLOW CONVERGENCE VALUE= .1720E-01 CRITERION= .2584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 655
 *** TIME = .262717E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2048E-04 OSCILLATION LIMIT = 16.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5422E-01
 HT FLOW CONVERGENCE VALUE= .1741E-01 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 656
 *** TIME = .263506E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2061E-04 OSCILLATION LIMIT = 16.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5387E-01
 HT FLOW CONVERGENCE VALUE= .1720E-01 CRITERION= .2582 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 657
 *** TIME = .264295E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2049E-04 OSCILLATION LIMIT = 16.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5417E-01
 HT FLOW CONVERGENCE VALUE= .1737E-01 CRITERION= .2580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 658
 *** TIME = .265084E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2060E-04 OSCILLATION LIMIT = 16.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5394E-01
 HT FLOW CONVERGENCE VALUE= .1720E-01 CRITERION= .2579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 659
 *** TIME = .265873E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2050E-04 OSCILLATION LIMIT = 16.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.318 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5413E-01
 HT FLOW CONVERGENCE VALUE= .1734E-01 CRITERION= .2577 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 660
 *** TIME = .266662E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2059E-04 OSCILLATION LIMIT = 16.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2577
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5399E-01
 HT FLOW CONVERGENCE VALUE= .1720E-01 CRITERION= .2576 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 661
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2051E-04 OSCILLATION LIMIT = 16.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2576
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5412E-01
 HT FLOW CONVERGENCE VALUE= .1731E-01 CRITERION= .2575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 662
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2058E-04 OSCILLATION LIMIT = 16.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5404E-01
 HT FLOW CONVERGENCE VALUE= .1719E-01 CRITERION= .2573 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 663
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2052E-04 OSCILLATION LIMIT = 16.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5410E-01
 HT FLOW CONVERGENCE VALUE= .1729E-01 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 664
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2058E-04 OSCILLATION LIMIT = 16.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5408E-01
 HT FLOW CONVERGENCE VALUE= .1718E-01 CRITERION= .2571 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 665
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2053E-04 OSCILLATION LIMIT = 16.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2571
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5409E-01
 HT FLOW CONVERGENCE VALUE= .1726E-01 CRITERION= .2569 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 666
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2057E-04 OSCILLATION LIMIT = 16.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.284 CRITERION= .2569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5410E-01
 HT FLOW CONVERGENCE VALUE= .1717E-01 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 667
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2053E-04 OSCILLATION LIMIT = 16.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5409E-01
 HT FLOW CONVERGENCE VALUE= .1725E-01 CRITERION= .2566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 668
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2057E-04 OSCILLATION LIMIT = 16.23

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.283 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5412E-01
 HT FLOW CONVERGENCE VALUE= .1716E-01 CRITERION= .2565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 669

*** TIME = .273762E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2053E-04 OSCILLATION LIMIT = 16.20

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2565
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5409E-01
 HT FLOW CONVERGENCE VALUE= .1723E-01 CRITERION= .2563 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 670

*** TIME = .274551E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2057E-04 OSCILLATION LIMIT = 16.23

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.283 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5414E-01
 HT FLOW CONVERGENCE VALUE= .1714E-01 CRITERION= .2562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 671

*** TIME = .275340E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2054E-04 OSCILLATION LIMIT = 16.20

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5409E-01
 HT FLOW CONVERGENCE VALUE= .1721E-01 CRITERION= .2561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 672

*** TIME = .276129E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2057E-04 OSCILLATION LIMIT = 16.23

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.283 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5415E-01
 HT FLOW CONVERGENCE VALUE= .1713E-01 CRITERION= .2559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 673

*** TIME = .276918E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2054E-04 OSCILLATION LIMIT = 16.20

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2560
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5410E-01
 HT FLOW CONVERGENCE VALUE= .1720E-01 CRITERION= .2558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 674

*** TIME = .277707E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2057E-04 OSCILLATION LIMIT = 16.23

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.283 CRITERION= .2558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5417E-01
 HT FLOW CONVERGENCE VALUE= .1712E-01 CRITERION= .2557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 675

*** TIME = .278496E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2054E-04 OSCILLATION LIMIT = 16.21

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 3.317 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5411E-01
 HT FLOW CONVERGENCE VALUE= .1718E-01 CRITERION= .2555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 676

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*** TIME = .279285E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2057E-04    OSCILLATION LIMIT = 16.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.283    CRITERION= .2555
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5418E-01
    HT FLOW CONVERGENCE VALUE= .1711E-01    CRITERION= .2554    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 677
*** TIME = .280074E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2054E-04    OSCILLATION LIMIT = 16.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.317    CRITERION= .2554
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5412E-01
    HT FLOW CONVERGENCE VALUE= .1717E-01    CRITERION= .2552    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 678
*** TIME = .280863E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2057E-04    OSCILLATION LIMIT = 16.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.283    CRITERION= .2552
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5419E-01
    HT FLOW CONVERGENCE VALUE= .1710E-01    CRITERION= .2551    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 679
*** TIME = .281652E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2054E-04    OSCILLATION LIMIT = 16.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.317    CRITERION= .2551
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5413E-01
    HT FLOW CONVERGENCE VALUE= .1715E-01    CRITERION= .2550    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 680
*** TIME = .282441E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2057E-04    OSCILLATION LIMIT = 16.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.283    CRITERION= .2550
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5420E-01
    HT FLOW CONVERGENCE VALUE= .1709E-01    CRITERION= .2548    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 681
*** TIME = .283229E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2055E-04    OSCILLATION LIMIT = 16.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 3.316    CRITERION= .2549
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5415E-01
    HT FLOW CONVERGENCE VALUE= .1714E-01    CRITERION= .2547    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 682
*** TIME = .284018E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2057E-04    OSCILLATION LIMIT = 16.23
    Apply loads and solve for 10 to 90 years

*DO LOOP ON PARAMETER= TM    FROM .31558E+09 TO .28402E+10 BY .31558E+09
TIME= .31558E+09

SELECT    FOR ITEM=MAT    COMPONENT=
IN RANGE    14 TO    14 STEP    1

    13 AREAS (OF    94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT    ELEMENTS CREATED FROM SELECTED AREAS.

    2058 ELEMENTS (OF    5253 DEFINED) SELECTED FROM

```

13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 4464.28518 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 115.63 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 116.58 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 118.80 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 43289.800 TIME= 11:15:13
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:15:13 JUN 14, 1995 CP= 43289.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 22
 TIME AT END OF THE LOAD STEP.31558E+09
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGED YES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4106E-01

HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .2546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 683
 *** TIME = .284807E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2349E-04 OSCILLATION LIMIT = 18.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2546
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4045E-01
 HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .2545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 684
 *** TIME = .285596E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2348E-04 OSCILLATION LIMIT = 18.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4230E-01
 HT FLOW CONVERGENCE VALUE= .1277E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 685
 *** TIME = .286385E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2379E-04 OSCILLATION LIMIT = 18.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4062E-01
 HT FLOW CONVERGENCE VALUE= .1241E-01 CRITERION= .2542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 686
 *** TIME = .287174E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2350E-04 OSCILLATION LIMIT = 18.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4209E-01
 HT FLOW CONVERGENCE VALUE= .1269E-01 CRITERION= .2541 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 687
 *** TIME = .287963E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2375E-04 OSCILLATION LIMIT = 18.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4082E-01
 HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .2540 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 688
 *** TIME = .288752E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2354E-04 OSCILLATION LIMIT = 18.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4192E-01
 HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 689
 *** TIME = .289541E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2372E-04 OSCILLATION LIMIT = 18.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4097E-01
 HT FLOW CONVERGENCE VALUE= .1240E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 690
 *** TIME = .290330E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2357E-04 OSCILLATION LIMIT = 18.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4180E-01
 HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .2537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 691
 *** TIME = .291119E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2370E-04 OSCILLATION LIMIT = 18.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4109E-01
 HT FLOW CONVERGENCE VALUE= .1242E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 692
 *** TIME = .291908E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2359E-04 OSCILLATION LIMIT = 18.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4171E-01
 HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .2535 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 693
 *** TIME = .292697E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2368E-04 OSCILLATION LIMIT = 18.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4118E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 694
 *** TIME = .293486E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2360E-04 OSCILLATION LIMIT = 18.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4165E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 695
 *** TIME = .294275E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2366E-04 OSCILLATION LIMIT = 18.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4125E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 696
 *** TIME = .295064E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2362E-04 OSCILLATION LIMIT = 18.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4160E-01
 HT FLOW CONVERGENCE VALUE= .1247E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 697
 *** TIME = .295853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2365E-04 OSCILLATION LIMIT = 18.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4130E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 698
 *** TIME = .296641E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2362E-04 OSCILLATION LIMIT = 18.64

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4156E-01
 HT FLOW CONVERGENCE VALUE= .1245E-01 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 699
 *** TIME = .297430E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2365E-04 OSCILLATION LIMIT = 18.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4134E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 700
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2363E-04 OSCILLATION LIMIT = 18.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4154E-01
 HT FLOW CONVERGENCE VALUE= .1244E-01 CRITERION= .2526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 701
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2364E-04 OSCILLATION LIMIT = 18.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4138E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 702
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2364E-04 OSCILLATION LIMIT = 18.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4152E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 703
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2364E-04 OSCILLATION LIMIT = 18.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2524
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4140E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 704
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2364E-04 OSCILLATION LIMIT = 18.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151E-01
 HT FLOW CONVERGENCE VALUE= .1241E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 705
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2363E-04 OSCILLATION LIMIT = 18.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4142E-01
 HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2520 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 706


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*** TIME = .302953E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2364E-04    OSCILLATION LIMIT = 18.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.851    CRITERION= .2520
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
    HT FLOW CONVERGENCE VALUE= .1242E-01    CRITERION= .2519    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 707
*** TIME = .303742E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2363E-04    OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.884    CRITERION= .2519
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4145E-01
    HT FLOW CONVERGENCE VALUE= .1243E-01    CRITERION= .2518    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 708
*** TIME = .304531E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2365E-04    OSCILLATION LIMIT = 18.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.851    CRITERION= .2518
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
    HT FLOW CONVERGENCE VALUE= .1240E-01    CRITERION= .2517    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 709
*** TIME = .305320E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2363E-04    OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.884    CRITERION= .2517
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146E-01
    HT FLOW CONVERGENCE VALUE= .1242E-01    CRITERION= .2516    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 710
*** TIME = .306109E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2365E-04    OSCILLATION LIMIT = 18.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.851    CRITERION= .2516
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
    HT FLOW CONVERGENCE VALUE= .1238E-01    CRITERION= .2515    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 711
*** TIME = .306898E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2363E-04    OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.884    CRITERION= .2515
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4147E-01
    HT FLOW CONVERGENCE VALUE= .1241E-01    CRITERION= .2514    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 712
*** TIME = .307687E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2365E-04    OSCILLATION LIMIT = 18.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.851    CRITERION= .2514
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
    HT FLOW CONVERGENCE VALUE= .1238E-01    CRITERION= .2513    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 713
*** TIME = .308476E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2363E-04    OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.884    CRITERION= .2513
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4149E-01
    HT FLOW CONVERGENCE VALUE= .1240E-01    CRITERION= .2511    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 714
*** TIME = .309265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2365E-04 OSCILLATION LIMIT = 18.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2511
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151E-01
HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .2511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 715
*** TIME = .310053E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2362E-04 OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2511
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4150E-01
HT FLOW CONVERGENCE VALUE= .1240E-01 CRITERION= .2509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 716
*** TIME = .310842E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2365E-04 OSCILLATION LIMIT = 18.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151E-01
HT FLOW CONVERGENCE VALUE= .1236E-01 CRITERION= .2508 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 717
*** TIME = .311631E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2362E-04 OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2508
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151E-01
HT FLOW CONVERGENCE VALUE= .1239E-01 CRITERION= .2507 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 718
*** TIME = .312420E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2365E-04 OSCILLATION LIMIT = 18.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2507
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4151E-01
HT FLOW CONVERGENCE VALUE= .1236E-01 CRITERION= .2506 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 719
*** TIME = .313209E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2362E-04 OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2506
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4152E-01
HT FLOW CONVERGENCE VALUE= .1240E-01 CRITERION= .2505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 720
*** TIME = .313998E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2366E-04 OSCILLATION LIMIT = 18.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.851 CRITERION= .2505
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4152E-01
HT FLOW CONVERGENCE VALUE= .1235E-01 CRITERION= .2504 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 721
*** TIME = .314787E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2362E-04 OSCILLATION LIMIT = 18.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.884 CRITERION= .2504

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4153E-01
HT FLOW CONVERGENCE VALUE= .1239E-01 CRITERION= .2503 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 722
*** TIME = .315576E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2366E-04 OSCILLATION LIMIT = 18.66

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 12:04:42 JUN 14, 1995 CP= 45891.570
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4456
HT FLOW CONVERGENCE VALUE= .1270 CRITERION= .2492 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 723
*** TIME = .323465E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2369E-04 OSCILLATION LIMIT = 186.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.31 CRITERION= .2500
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4107
HT FLOW CONVERGENCE VALUE= .1226 CRITERION= .2481 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 724
*** TIME = .331355E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2267E-04 OSCILLATION LIMIT = 178.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2489
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4124
HT FLOW CONVERGENCE VALUE= .1218 CRITERION= .2470 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 725
*** TIME = .339244E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2270E-04 OSCILLATION LIMIT = 179.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.30 CRITERION= .2478
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4134
HT FLOW CONVERGENCE VALUE= .1216 CRITERION= .2459 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 726
*** TIME = .347134E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2272E-04 OSCILLATION LIMIT = 179.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2467
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4132
HT FLOW CONVERGENCE VALUE= .1211 CRITERION= .2449 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 727
*** TIME = .355023E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2271E-04 OSCILLATION LIMIT = 179.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.30 CRITERION= .2456
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4141
HT FLOW CONVERGENCE VALUE= .1208 CRITERION= .2437 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 728
*** TIME = .362912E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .2273E-04  OSCILLATION LIMIT = 179.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26  CRITERION= .2445
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4138
HT FLOW CONVERGENCE VALUE= .1202  CRITERION= .2427  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 729
*** TIME = .370802E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2271E-04  OSCILLATION LIMIT = 179.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.30  CRITERION= .2435
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4148
HT FLOW CONVERGENCE VALUE= .1200  CRITERION= .2416  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 730
*** TIME = .378691E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2273E-04  OSCILLATION LIMIT = 179.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26  CRITERION= .2424
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4145
HT FLOW CONVERGENCE VALUE= .1193  CRITERION= .2405  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 731
*** TIME = .386581E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2271E-04  OSCILLATION LIMIT = 179.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.29  CRITERION= .2413
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4155
HT FLOW CONVERGENCE VALUE= .1176  CRITERION= .2394  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 732
*** TIME = .394470E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2273E-04  OSCILLATION LIMIT = 179.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26  CRITERION= .2402
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4154
HT FLOW CONVERGENCE VALUE= .1159  CRITERION= .2383  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 733
*** TIME = .402359E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2272E-04  OSCILLATION LIMIT = 179.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.29  CRITERION= .2392
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4164
HT FLOW CONVERGENCE VALUE= .1150  CRITERION= .2372  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 734
*** TIME = .410249E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2274E-04  OSCILLATION LIMIT = 179.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25  CRITERION= .2381
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4163
HT FLOW CONVERGENCE VALUE= .1137  CRITERION= .2362  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 735
*** TIME = .418138E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2272E-04  OSCILLATION LIMIT = 179.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.28  CRITERION= .2370
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4172
HT FLOW CONVERGENCE VALUE= .1140  CRITERION= .2351  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 736
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2274E-04 OSCILLATION LIMIT = 179.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2359
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4170
 HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .2340 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 737
 *** TIME = .433917E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2273E-04 OSCILLATION LIMIT = 179.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.28 CRITERION= .2348
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4180
 HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 738
 *** TIME = .441806E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2274E-04 OSCILLATION LIMIT = 179.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2337
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4178
 HT FLOW CONVERGENCE VALUE= .1132 CRITERION= .2318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 739
 *** TIME = .449696E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2273E-04 OSCILLATION LIMIT = 179.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.28 CRITERION= .2327
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4187
 HT FLOW CONVERGENCE VALUE= .1133 CRITERION= .2307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 740
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2275E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4185
 HT FLOW CONVERGENCE VALUE= .1130 CRITERION= .2297 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 741
 *** TIME = .465475E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2273E-04 OSCILLATION LIMIT = 179.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2305
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4194
 HT FLOW CONVERGENCE VALUE= .1127 CRITERION= .2286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 742
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2275E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4193
 HT FLOW CONVERGENCE VALUE= .1120 CRITERION= .2275 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 743
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2274E-04 OSCILLATION LIMIT = 179.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2283
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4201

HT FLOW CONVERGENCE VALUE= .1120 CRITERION= .2264 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 744
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2275E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2272
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4199
 HT FLOW CONVERGENCE VALUE= .1115 CRITERION= .2253 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 745
 *** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2274E-04 OSCILLATION LIMIT = 179.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.27 CRITERION= .2262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4207
 HT FLOW CONVERGENCE VALUE= .1111 CRITERION= .2242 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 746
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4206
 HT FLOW CONVERGENCE VALUE= .1105 CRITERION= .2231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 747
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2274E-04 OSCILLATION LIMIT = 179.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4214
 HT FLOW CONVERGENCE VALUE= .1101 CRITERION= .2220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 748
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.23 CRITERION= .2229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4213
 HT FLOW CONVERGENCE VALUE= .1102 CRITERION= .2210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 749
 *** TIME = .528590E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2275E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4221
 HT FLOW CONVERGENCE VALUE= .1099 CRITERION= .2199 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 750
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .2207
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4219
 HT FLOW CONVERGENCE VALUE= .1094 CRITERION= .2188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 751
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2275E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.26 CRITERION= .2197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4227
 HT FLOW CONVERGENCE VALUE= .1090 CRITERION= .2177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 752
 *** TIME = .552258E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .2186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4225
 HT FLOW CONVERGENCE VALUE= .1079 CRITERION= .2166 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 753
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2275E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4233
 HT FLOW CONVERGENCE VALUE= .1074 CRITERION= .2155 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 754
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2277E-04 OSCILLATION LIMIT = 179.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.22 CRITERION= .2164
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4233
 HT FLOW CONVERGENCE VALUE= .1069 CRITERION= .2144 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 755
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2154
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4240
 HT FLOW CONVERGENCE VALUE= .1063 CRITERION= .2133 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 756
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2277E-04 OSCILLATION LIMIT = 179.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .2143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4239
 HT FLOW CONVERGENCE VALUE= .1044 CRITERION= .2123 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 757
 *** TIME = .591705E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.25 CRITERION= .2132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4245
 HT FLOW CONVERGENCE VALUE= .1032 CRITERION= .2112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 758
 *** TIME = .599594E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2277E-04 OSCILLATION LIMIT = 179.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .2121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4243
 HT FLOW CONVERGENCE VALUE= .1030 CRITERION= .2101 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 759
 *** TIME = .607484E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.5

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4250
 HT FLOW CONVERGENCE VALUE= .1060 CRITERION= .2090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 760
 *** TIME = .615373E+09 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .2277E-04 OSCILLATION LIMIT = 179.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.21 CRITERION= .2099
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4248
 HT FLOW CONVERGENCE VALUE= .1071 CRITERION= .2079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 761
 *** TIME = .623263E+09 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .2276E-04 OSCILLATION LIMIT = 179.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.24 CRITERION= .2089
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4255
 HT FLOW CONVERGENCE VALUE= .1071 CRITERION= .2068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 762
 *** TIME = .631152E+09 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .2277E-04 OSCILLATION LIMIT = 179.6

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:55:10 JUN 14, 1995 CP= 48497.850
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 28.88 CRITERION= .2088
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3470
 HT FLOW CONVERGENCE VALUE= .9621E-01 CRITERION= .2060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 763
 *** TIME = .639041E+09 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1634E-04 OSCILLATION LIMIT = 128.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.91 CRITERION= .2080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3504
 HT FLOW CONVERGENCE VALUE= .9535E-01 CRITERION= .2052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 764
 *** TIME = .646931E+09 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1645E-04 OSCILLATION LIMIT = 129.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.87 CRITERION= .2072
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3512
 HT FLOW CONVERGENCE VALUE= .9517E-01 CRITERION= .2044 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 765
 *** TIME = .654820E+09 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1647E-04 OSCILLATION LIMIT = 129.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.90 CRITERION= .2064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3507
 HT FLOW CONVERGENCE VALUE= .9483E-01 CRITERION= .2035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 766


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*** TIME = .662710E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1645E-04    OSCILLATION LIMIT = 129.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.87    CRITERION= .2055
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3515
    HT FLOW CONVERGENCE VALUE= .9602E-01    CRITERION= .2027    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 767
*** TIME = .670599E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1647E-04    OSCILLATION LIMIT = 130.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.90    CRITERION= .2048
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3511
    HT FLOW CONVERGENCE VALUE= .9562E-01    CRITERION= .2019    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 768
*** TIME = .678488E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1645E-04    OSCILLATION LIMIT = 129.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.86    CRITERION= .2039
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3519
    HT FLOW CONVERGENCE VALUE= .9539E-01    CRITERION= .2011    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 769
*** TIME = .686378E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1648E-04    OSCILLATION LIMIT = 130.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.89    CRITERION= .2032
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3515
    HT FLOW CONVERGENCE VALUE= .9506E-01    CRITERION= .2003    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 770
*** TIME = .694267E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1646E-04    OSCILLATION LIMIT = 129.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.85    CRITERION= .2023
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3523
    HT FLOW CONVERGENCE VALUE= .9495E-01    CRITERION= .1995    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 771
*** TIME = .702157E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1649E-04    OSCILLATION LIMIT = 130.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.88    CRITERION= .2015
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3520
    HT FLOW CONVERGENCE VALUE= .9453E-01    CRITERION= .1987    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 772
*** TIME = .710046E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1647E-04    OSCILLATION LIMIT = 129.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.85    CRITERION= .2007
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3527
    HT FLOW CONVERGENCE VALUE= .9426E-01    CRITERION= .1979    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 773
*** TIME = .717935E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1649E-04    OSCILLATION LIMIT = 130.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.87    CRITERION= .1999
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3524
    HT FLOW CONVERGENCE VALUE= .9387E-01    CRITERION= .1970    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 774
*** TIME = .725825E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1648E-04 OSCILLATION LIMIT = 130.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.84 CRITERION= .1991
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3532
HT FLOW CONVERGENCE VALUE= .9328E-01 CRITERION= .1962 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 775
*** TIME = .733714E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1650E-04 OSCILLATION LIMIT = 130.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.87 CRITERION= .1983
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3528
HT FLOW CONVERGENCE VALUE= .9291E-01 CRITERION= .1954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 776
*** TIME = .741604E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1649E-04 OSCILLATION LIMIT = 130.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.83 CRITERION= .1975
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3536
HT FLOW CONVERGENCE VALUE= .9266E-01 CRITERION= .1946 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 777
*** TIME = .749493E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1651E-04 OSCILLATION LIMIT = 130.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.86 CRITERION= .1967
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3533
HT FLOW CONVERGENCE VALUE= .9224E-01 CRITERION= .1938 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 778
*** TIME = .757382E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1649E-04 OSCILLATION LIMIT = 130.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1959
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3541
HT FLOW CONVERGENCE VALUE= .9182E-01 CRITERION= .1930 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 779
*** TIME = .765272E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1651E-04 OSCILLATION LIMIT = 130.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.85 CRITERION= .1951
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3538
HT FLOW CONVERGENCE VALUE= .9145E-01 CRITERION= .1921 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 780
*** TIME = .773161E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1650E-04 OSCILLATION LIMIT = 130.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1943
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3545
HT FLOW CONVERGENCE VALUE= .9101E-01 CRITERION= .1913 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 781
*** TIME = .781051E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1652E-04 OSCILLATION LIMIT = 130.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.85 CRITERION= .1935

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3542
HT FLOW CONVERGENCE VALUE= .8996E-01 CRITERION= .1905 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 782
*** TIME = .788940E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1651E-04 OSCILLATION LIMIT = 130.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.81 CRITERION= .1926
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3550
HT FLOW CONVERGENCE VALUE= .8940E-01 CRITERION= .1897 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 783
*** TIME = .796829E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1653E-04 OSCILLATION LIMIT = 130.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.84 CRITERION= .1919
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3547
HT FLOW CONVERGENCE VALUE= .8877E-01 CRITERION= .1889 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 784
*** TIME = .804719E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1652E-04 OSCILLATION LIMIT = 130.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.80 CRITERION= .1910
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3554
HT FLOW CONVERGENCE VALUE= .8855E-01 CRITERION= .1881 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 785
*** TIME = .812608E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1653E-04 OSCILLATION LIMIT = 130.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.83 CRITERION= .1902
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3551
HT FLOW CONVERGENCE VALUE= .8782E-01 CRITERION= .1872 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 786
*** TIME = .820498E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1652E-04 OSCILLATION LIMIT = 130.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1894
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3559
HT FLOW CONVERGENCE VALUE= .8758E-01 CRITERION= .1865 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 787
*** TIME = .828387E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1654E-04 OSCILLATION LIMIT = 130.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1886
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3556
HT FLOW CONVERGENCE VALUE= .8692E-01 CRITERION= .1856 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 788
*** TIME = .836276E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1653E-04 OSCILLATION LIMIT = 130.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1878
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3563
HT FLOW CONVERGENCE VALUE= .8661E-01 CRITERION= .1848 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 789
*** TIME = .844166E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1655E-04 OSCILLATION LIMIT = 130.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1870
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3561
 HT FLOW CONVERGENCE VALUE= .8628E-01 CRITERION= .1840 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 790
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1654E-04 OSCILLATION LIMIT = 130.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.78 CRITERION= .1862
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3568
 HT FLOW CONVERGENCE VALUE= .8598E-01 CRITERION= .1832 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 791
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1656E-04 OSCILLATION LIMIT = 130.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.81 CRITERION= .1854
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3566
 HT FLOW CONVERGENCE VALUE= .8556E-01 CRITERION= .1824 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 792
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1655E-04 OSCILLATION LIMIT = 130.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.77 CRITERION= .1846
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3572
 HT FLOW CONVERGENCE VALUE= .8506E-01 CRITERION= .1816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 793
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1656E-04 OSCILLATION LIMIT = 130.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.80 CRITERION= .1838
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3570
 HT FLOW CONVERGENCE VALUE= .8467E-01 CRITERION= .1807 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 794
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1656E-04 OSCILLATION LIMIT = 130.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.77 CRITERION= .1830
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3577
 HT FLOW CONVERGENCE VALUE= .8462E-01 CRITERION= .1799 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 795
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1657E-04 OSCILLATION LIMIT = 130.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1822
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3575
 HT FLOW CONVERGENCE VALUE= .8421E-01 CRITERION= .1791 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 796
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1656E-04 OSCILLATION LIMIT = 130.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.76 CRITERION= .1814
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3581
 HT FLOW CONVERGENCE VALUE= .8395E-01 CRITERION= .1783 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 797
 *** TIME = .907281E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1658E-04 OSCILLATION LIMIT = 130.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1806
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3579
 HT FLOW CONVERGENCE VALUE= .8355E-01 CRITERION= .1775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 798
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1657E-04 OSCILLATION LIMIT = 130.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.75 CRITERION= .1797
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3586
 HT FLOW CONVERGENCE VALUE= .8256E-01 CRITERION= .1767 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 799
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1659E-04 OSCILLATION LIMIT = 130.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.78 CRITERION= .1790
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3584
 HT FLOW CONVERGENCE VALUE= .8067E-01 CRITERION= .1758 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 800
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1658E-04 OSCILLATION LIMIT = 130.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.74 CRITERION= .1781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3589
 HT FLOW CONVERGENCE VALUE= .7959E-01 CRITERION= .1750 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 801
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1659E-04 OSCILLATION LIMIT = 130.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.77 CRITERION= .1773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3587
 HT FLOW CONVERGENCE VALUE= .7915E-01 CRITERION= .1742 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 802
 *** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1659E-04 OSCILLATION LIMIT = 130.8

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:05:08 JUN 14, 1995 CP= 51137.210
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 36.57 CRITERION= .1780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3074
 HT FLOW CONVERGENCE VALUE= .7484E-01 CRITERION= .1736 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 803
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.59 CRITERION= .1774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3086
 HT FLOW CONVERGENCE VALUE= .7348E-01 CRITERION= .1729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 804
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1111E-04 OSCILLATION LIMIT = 87.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.56 CRITERION= .1767
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3097
 HT FLOW CONVERGENCE VALUE= .7333E-01 CRITERION= .1723 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 805
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1116E-04 OSCILLATION LIMIT = 88.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.58 CRITERION= .1761
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3088
 HT FLOW CONVERGENCE VALUE= .7297E-01 CRITERION= .1717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 806
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1112E-04 OSCILLATION LIMIT = 87.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.54 CRITERION= .1755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3100
 HT FLOW CONVERGENCE VALUE= .7319E-01 CRITERION= .1711 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 807
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1116E-04 OSCILLATION LIMIT = 88.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.57 CRITERION= .1749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3091
 HT FLOW CONVERGENCE VALUE= .7407E-01 CRITERION= .1704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 808
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1113E-04 OSCILLATION LIMIT = 87.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.53 CRITERION= .1743
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3102
 HT FLOW CONVERGENCE VALUE= .7417E-01 CRITERION= .1698 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 809
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1117E-04 OSCILLATION LIMIT = 88.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.56 CRITERION= .1737
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3094
 HT FLOW CONVERGENCE VALUE= .7344E-01 CRITERION= .1692 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 810
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1114E-04 OSCILLATION LIMIT = 87.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.52 CRITERION= .1731
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3105
 HT FLOW CONVERGENCE VALUE= .7314E-01 CRITERION= .1686 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 811
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 88.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.55 CRITERION= .1725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3097

HT FLOW CONVERGENCE VALUE= .7314E-01 CRITERION= .1680 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 812
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1115E-04 OSCILLATION LIMIT = 87.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.51 CRITERION= .1719
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3108
 HT FLOW CONVERGENCE VALUE= .7280E-01 CRITERION= .1674 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 813
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1119E-04 OSCILLATION LIMIT = 88.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.54 CRITERION= .1713
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3101
 HT FLOW CONVERGENCE VALUE= .7232E-01 CRITERION= .1667 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 814
 *** TIME = .104140E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1116E-04 OSCILLATION LIMIT = 88.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.50 CRITERION= .1706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3112
 HT FLOW CONVERGENCE VALUE= .7204E-01 CRITERION= .1661 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 815
 *** TIME = .104929E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 88.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.52 CRITERION= .1700
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3104
 HT FLOW CONVERGENCE VALUE= .7169E-01 CRITERION= .1655 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 816
 *** TIME = .105718E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1117E-04 OSCILLATION LIMIT = 88.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.49 CRITERION= .1694
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3115
 HT FLOW CONVERGENCE VALUE= .7158E-01 CRITERION= .1649 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 817
 *** TIME = .106507E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.51 CRITERION= .1688
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3108
 HT FLOW CONVERGENCE VALUE= .7125E-01 CRITERION= .1642 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 818
 *** TIME = .107296E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 88.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.47 CRITERION= .1682
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3118
 HT FLOW CONVERGENCE VALUE= .7098E-01 CRITERION= .1636 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 819
 *** TIME = .108085E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.50 CRITERION= .1676
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3111
 HT FLOW CONVERGENCE VALUE= .7029E-01 CRITERION= .1630 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 820
 *** TIME = .108874E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1118E-04 OSCILLATION LIMIT = 88.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.46 CRITERION= .1670
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3121
 HT FLOW CONVERGENCE VALUE= .7018E-01 CRITERION= .1624 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 821
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.49 CRITERION= .1664
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3115
 HT FLOW CONVERGENCE VALUE= .6981E-01 CRITERION= .1617 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 822
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1120E-04 OSCILLATION LIMIT = 88.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.45 CRITERION= .1658
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3125
 HT FLOW CONVERGENCE VALUE= .6929E-01 CRITERION= .1611 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 823
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.48 CRITERION= .1652
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3118
 HT FLOW CONVERGENCE VALUE= .6877E-01 CRITERION= .1605 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 824
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.44 CRITERION= .1645
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3128
 HT FLOW CONVERGENCE VALUE= .6864E-01 CRITERION= .1599 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 825
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.47 CRITERION= .1639
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3122
 HT FLOW CONVERGENCE VALUE= .6834E-01 CRITERION= .1592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 826
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1121E-04 OSCILLATION LIMIT = 88.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.43 CRITERION= .1633
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3131
 HT FLOW CONVERGENCE VALUE= .6790E-01 CRITERION= .1586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 827
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1125E-04 OSCILLATION LIMIT = 88.75

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.45 CRITERION= .1627
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3124
 HT FLOW CONVERGENCE VALUE= .6729E-01 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 828
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1122E-04 OSCILLATION LIMIT = 88.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.42 CRITERION= .1621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3133
 HT FLOW CONVERGENCE VALUE= .6712E-01 CRITERION= .1574 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 829
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1125E-04 OSCILLATION LIMIT = 88.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.44 CRITERION= .1615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3127
 HT FLOW CONVERGENCE VALUE= .6665E-01 CRITERION= .1567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 830
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1123E-04 OSCILLATION LIMIT = 88.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.40 CRITERION= .1609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3136
 HT FLOW CONVERGENCE VALUE= .6648E-01 CRITERION= .1561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 831
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1126E-04 OSCILLATION LIMIT = 88.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.43 CRITERION= .1603
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3130
 HT FLOW CONVERGENCE VALUE= .6702E-01 CRITERION= .1555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 832
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1124E-04 OSCILLATION LIMIT = 88.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.39 CRITERION= .1597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3139
 HT FLOW CONVERGENCE VALUE= .6729E-01 CRITERION= .1549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 833
 *** TIME = .119130E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1127E-04 OSCILLATION LIMIT = 88.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.42 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3133
 HT FLOW CONVERGENCE VALUE= .6718E-01 CRITERION= .1542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 834
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1125E-04 OSCILLATION LIMIT = 88.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.38 CRITERION= .1584
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3142
 HT FLOW CONVERGENCE VALUE= .6728E-01 CRITERION= .1536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 835

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*** TIME = .120708E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1128E-04    OSCILLATION LIMIT = 88.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.41    CRITERION= .1579
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3136
    HT FLOW CONVERGENCE VALUE= .6692E-01    CRITERION= .1530    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 34 COMPLETED.    CUM ITER = 836
*** TIME = .121497E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1125E-04    OSCILLATION LIMIT = 88.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.37    CRITERION= .1572
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3145
    HT FLOW CONVERGENCE VALUE= .6653E-01    CRITERION= .1524    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 35 COMPLETED.    CUM ITER = 837
*** TIME = .122286E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1128E-04    OSCILLATION LIMIT = 89.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.40    CRITERION= .1566
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3140
    HT FLOW CONVERGENCE VALUE= .6607E-01    CRITERION= .1517    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 36 COMPLETED.    CUM ITER = 838
*** TIME = .123075E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1126E-04    OSCILLATION LIMIT = 88.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.36    CRITERION= .1560
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3148
    HT FLOW CONVERGENCE VALUE= .6565E-01    CRITERION= .1511    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 37 COMPLETED.    CUM ITER = 839
*** TIME = .123864E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1129E-04    OSCILLATION LIMIT = 89.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.38    CRITERION= .1554
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3143
    HT FLOW CONVERGENCE VALUE= .6497E-01    CRITERION= .1505    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 38 COMPLETED.    CUM ITER = 840
*** TIME = .124653E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1127E-04    OSCILLATION LIMIT = 88.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.35    CRITERION= .1548
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3151
    HT FLOW CONVERGENCE VALUE= .6446E-01    CRITERION= .1499    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 39 COMPLETED.    CUM ITER = 841
*** TIME = .125441E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1130E-04    OSCILLATION LIMIT = 89.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.37    CRITERION= .1542
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3147
    HT FLOW CONVERGENCE VALUE= .6412E-01    CRITERION= .1492    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 40 COMPLETED.    CUM ITER = 842
*** TIME = .126230E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1128E-04    OSCILLATION LIMIT = 89.01

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 14:58:38 JUN 14, 1995 CP= 53742.690
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 30.92 CRITERION= .1524
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2577
HT FLOW CONVERGENCE VALUE= .5309E-01 CRITERION= .1487 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 843
*** TIME = .127019E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1075E-04 OSCILLATION LIMIT = 84.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.95 CRITERION= .1519
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2602
HT FLOW CONVERGENCE VALUE= .5293E-01 CRITERION= .1482 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 844
*** TIME = .127808E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1086E-04 OSCILLATION LIMIT = 85.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.91 CRITERION= .1514
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2618
HT FLOW CONVERGENCE VALUE= .5287E-01 CRITERION= .1477 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 845
*** TIME = .128597E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1094E-04 OSCILLATION LIMIT = 86.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.94 CRITERION= .1509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2603
HT FLOW CONVERGENCE VALUE= .5240E-01 CRITERION= .1472 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 846
*** TIME = .129386E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1087E-04 OSCILLATION LIMIT = 85.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.90 CRITERION= .1504
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2619
HT FLOW CONVERGENCE VALUE= .5231E-01 CRITERION= .1467 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 847
*** TIME = .130175E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1095E-04 OSCILLATION LIMIT = 86.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.93 CRITERION= .1499
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2605
HT FLOW CONVERGENCE VALUE= .5182E-01 CRITERION= .1462 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 848
*** TIME = .130964E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1088E-04 OSCILLATION LIMIT = 85.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.89 CRITERION= .1494
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2621
HT FLOW CONVERGENCE VALUE= .5165E-01 CRITERION= .1457 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 849
*** TIME = .131753E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1095E-04 OSCILLATION LIMIT = 86.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.92 CRITERION= .1489

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2608
 HT FLOW CONVERGENCE VALUE= .5117E-01 CRITERION= .1451 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 850
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1089E-04 OSCILLATION LIMIT = 85.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.88 CRITERION= .1484
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2624
 HT FLOW CONVERGENCE VALUE= .5114E-01 CRITERION= .1446 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 851
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1096E-04 OSCILLATION LIMIT = 86.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.91 CRITERION= .1479
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2611
 HT FLOW CONVERGENCE VALUE= .5081E-01 CRITERION= .1441 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 852
 *** TIME = .134120E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1090E-04 OSCILLATION LIMIT = 86.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.87 CRITERION= .1474
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2625
 HT FLOW CONVERGENCE VALUE= .5076E-01 CRITERION= .1436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 853
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1097E-04 OSCILLATION LIMIT = 86.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.90 CRITERION= .1469
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2613
 HT FLOW CONVERGENCE VALUE= .5039E-01 CRITERION= .1431 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 854
 *** TIME = .135698E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1091E-04 OSCILLATION LIMIT = 86.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.87 CRITERION= .1464
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2628
 HT FLOW CONVERGENCE VALUE= .5034E-01 CRITERION= .1426 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 855
 *** TIME = .136487E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1098E-04 OSCILLATION LIMIT = 86.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.90 CRITERION= .1459
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2616
 HT FLOW CONVERGENCE VALUE= .4995E-01 CRITERION= .1421 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 856
 *** TIME = .137276E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1092E-04 OSCILLATION LIMIT = 86.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.86 CRITERION= .1454
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2631
 HT FLOW CONVERGENCE VALUE= .4985E-01 CRITERION= .1416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 857
 *** TIME = .138065E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1099E-04 OSCILLATION LIMIT = 86.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.89 CRITERION= .1449
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2620
 HT FLOW CONVERGENCE VALUE= .4949E-01 CRITERION= .1410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 858
 *** TIME = .138853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1093E-04 OSCILLATION LIMIT = 86.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.85 CRITERION= .1444
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2634
 HT FLOW CONVERGENCE VALUE= .4944E-01 CRITERION= .1406 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 859
 *** TIME = .139642E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1100E-04 OSCILLATION LIMIT = 86.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.88 CRITERION= .1439
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2623
 HT FLOW CONVERGENCE VALUE= .4909E-01 CRITERION= .1400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 860
 *** TIME = .140431E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1094E-04 OSCILLATION LIMIT = 86.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.84 CRITERION= .1434
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2637
 HT FLOW CONVERGENCE VALUE= .4906E-01 CRITERION= .1395 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 861
 *** TIME = .141220E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = 86.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.87 CRITERION= .1429
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2627
 HT FLOW CONVERGENCE VALUE= .4876E-01 CRITERION= .1390 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 862
 *** TIME = .142009E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1095E-04 OSCILLATION LIMIT = 86.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.83 CRITERION= .1424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2640
 HT FLOW CONVERGENCE VALUE= .4874E-01 CRITERION= .1385 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 863
 *** TIME = .142798E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = 86.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.86 CRITERION= .1419
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2630
 HT FLOW CONVERGENCE VALUE= .4846E-01 CRITERION= .1380 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 864
 *** TIME = .143587E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1096E-04 OSCILLATION LIMIT = 86.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.82 CRITERION= .1414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2643
 HT FLOW CONVERGENCE VALUE= .4843E-01 CRITERION= .1375 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 865
 *** TIME = .144376E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .1102E-04  OSCILLATION LIMIT = 86.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.85      CRITERION= .1409
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2633
    HT FLOW CONVERGENCE VALUE= .4815E-01 CRITERION= .1369  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 866
*** TIME = .145165E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1097E-04  OSCILLATION LIMIT = 86.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.82      CRITERION= .1404
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2645
    HT FLOW CONVERGENCE VALUE= .4812E-01 CRITERION= .1365  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 867
*** TIME = .145954E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1103E-04  OSCILLATION LIMIT = 87.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.84      CRITERION= .1399
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2635
    HT FLOW CONVERGENCE VALUE= .4785E-01 CRITERION= .1359  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 868
*** TIME = .146743E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1098E-04  OSCILLATION LIMIT = 86.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.81      CRITERION= .1393
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2648
    HT FLOW CONVERGENCE VALUE= .4781E-01 CRITERION= .1354  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 869
*** TIME = .147532E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1104E-04  OSCILLATION LIMIT = 87.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.84      CRITERION= .1389
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2638
    HT FLOW CONVERGENCE VALUE= .4754E-01 CRITERION= .1349  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 870
*** TIME = .148321E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1099E-04  OSCILLATION LIMIT = 86.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.80      CRITERION= .1383
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2651
    HT FLOW CONVERGENCE VALUE= .4750E-01 CRITERION= .1344  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 871
*** TIME = .149110E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1105E-04  OSCILLATION LIMIT = 87.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.83      CRITERION= .1379
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2642
    HT FLOW CONVERGENCE VALUE= .4724E-01 CRITERION= .1339  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 872
*** TIME = .149899E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1100E-04  OSCILLATION LIMIT = 86.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

    HT FLOW CONVERGENCE VALUE= 30.79      CRITERION= .1373
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2654
    HT FLOW CONVERGENCE VALUE= .4719E-01 CRITERION= .1334  <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 873
 *** TIME = .150688E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.82 CRITERION= .1369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2645
 HT FLOW CONVERGENCE VALUE= .4693E-01 CRITERION= .1328 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 874
 *** TIME = .151476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1101E-04 OSCILLATION LIMIT = 86.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.78 CRITERION= .1363
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2657
 HT FLOW CONVERGENCE VALUE= .4688E-01 CRITERION= .1323 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 875
 *** TIME = .152265E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1106E-04 OSCILLATION LIMIT = 87.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.81 CRITERION= .1359
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2649
 HT FLOW CONVERGENCE VALUE= .4662E-01 CRITERION= .1318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 876
 *** TIME = .153054E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1102E-04 OSCILLATION LIMIT = 86.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.77 CRITERION= .1353
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2660
 HT FLOW CONVERGENCE VALUE= .4657E-01 CRITERION= .1313 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 877
 *** TIME = .153843E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1107E-04 OSCILLATION LIMIT = 87.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.80 CRITERION= .1349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2652
 HT FLOW CONVERGENCE VALUE= .4631E-01 CRITERION= .1308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 878
 *** TIME = .154632E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1103E-04 OSCILLATION LIMIT = 87.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.76 CRITERION= .1343
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2662
 HT FLOW CONVERGENCE VALUE= .4626E-01 CRITERION= .1303 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 879
 *** TIME = .155421E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1108E-04 OSCILLATION LIMIT = 87.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.79 CRITERION= .1339
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2655
 HT FLOW CONVERGENCE VALUE= .4601E-01 CRITERION= .1298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 880
 *** TIME = .156210E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1104E-04 OSCILLATION LIMIT = 87.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.76 CRITERION= .1333
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2665

HT FLOW CONVERGENCE VALUE= .4594E-01 CRITERION= .1293 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 881
 *** TIME = .156999E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1109E-04 OSCILLATION LIMIT = 87.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.79 CRITERION= .1329
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2658
 HT FLOW CONVERGENCE VALUE= .4570E-01 CRITERION= .1287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 882
 *** TIME = .157788E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1105E-04 OSCILLATION LIMIT = 87.18

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:45:40 JUN 14, 1995 CP= 56347.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 25.92 CRITERION= .1313
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2113
 HT FLOW CONVERGENCE VALUE= .3700E-01 CRITERION= .1284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 883
 *** TIME = .158577E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1022E-04 OSCILLATION LIMIT = 80.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.95 CRITERION= .1309
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2129
 HT FLOW CONVERGENCE VALUE= .3690E-01 CRITERION= .1279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 884
 *** TIME = .159366E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1031E-04 OSCILLATION LIMIT = 81.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.91 CRITERION= .1305
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2146
 HT FLOW CONVERGENCE VALUE= .3699E-01 CRITERION= .1275 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 885
 *** TIME = .160155E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1041E-04 OSCILLATION LIMIT = 82.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.94 CRITERION= .1301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2130
 HT FLOW CONVERGENCE VALUE= .3670E-01 CRITERION= .1271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 886
 *** TIME = .160944E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1031E-04 OSCILLATION LIMIT = 81.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.91 CRITERION= .1297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2148
 HT FLOW CONVERGENCE VALUE= .3679E-01 CRITERION= .1267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 887
 *** TIME = .161733E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 82.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.94 CRITERION= .1294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2132
 HT FLOW CONVERGENCE VALUE= .3651E-01 CRITERION= .1263 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 888
 *** TIME = .162522E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1032E-04 OSCILLATION LIMIT = 81.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.90 CRITERION= .1289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2149
 HT FLOW CONVERGENCE VALUE= .3659E-01 CRITERION= .1259 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 889
 *** TIME = .163311E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 82.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.93 CRITERION= .1286
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2134
 HT FLOW CONVERGENCE VALUE= .3632E-01 CRITERION= .1255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 890
 *** TIME = .164100E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1033E-04 OSCILLATION LIMIT = 81.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1281
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2151
 HT FLOW CONVERGENCE VALUE= .3639E-01 CRITERION= .1251 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 891
 *** TIME = .164888E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 82.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.92 CRITERION= .1278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2136
 HT FLOW CONVERGENCE VALUE= .3612E-01 CRITERION= .1247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 892
 *** TIME = .165677E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1034E-04 OSCILLATION LIMIT = 81.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1274
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2153
 HT FLOW CONVERGENCE VALUE= .3619E-01 CRITERION= .1243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 893
 *** TIME = .166466E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1044E-04 OSCILLATION LIMIT = 82.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.92 CRITERION= .1270
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2139
 HT FLOW CONVERGENCE VALUE= .3593E-01 CRITERION= .1239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 894
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = 81.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.88 CRITERION= .1266
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2155
 HT FLOW CONVERGENCE VALUE= .3599E-01 CRITERION= .1235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 895
 *** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1044E-04 OSCILLATION LIMIT = 82.38

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.91 CRITERION= .1262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2141
 HT FLOW CONVERGENCE VALUE= .3573E-01 CRITERION= .1231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 896
 *** TIME = .168833E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1035E-04 OSCILLATION LIMIT = 81.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.88 CRITERION= .1258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2157
 HT FLOW CONVERGENCE VALUE= .3579E-01 CRITERION= .1227 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 897
 *** TIME = .169622E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1045E-04 OSCILLATION LIMIT = 82.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.91 CRITERION= .1254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2143
 HT FLOW CONVERGENCE VALUE= .3554E-01 CRITERION= .1223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 898
 *** TIME = .170411E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1036E-04 OSCILLATION LIMIT = 81.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.87 CRITERION= .1250
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2158
 HT FLOW CONVERGENCE VALUE= .3559E-01 CRITERION= .1219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 899
 *** TIME = .171200E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1045E-04 OSCILLATION LIMIT = 82.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.90 CRITERION= .1246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2145
 HT FLOW CONVERGENCE VALUE= .3534E-01 CRITERION= .1215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 900
 *** TIME = .171989E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1037E-04 OSCILLATION LIMIT = 81.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.86 CRITERION= .1242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2160
 HT FLOW CONVERGENCE VALUE= .3539E-01 CRITERION= .1211 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 901
 *** TIME = .172778E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1046E-04 OSCILLATION LIMIT = 82.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.89 CRITERION= .1238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2148
 HT FLOW CONVERGENCE VALUE= .3515E-01 CRITERION= .1207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 902
 *** TIME = .173567E+10 TIME INC = .78894E+07
 *** RESPONSE EIGENVALUE = .1038E-04 OSCILLATION LIMIT = 81.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.86 CRITERION= .1234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2162
 HT FLOW CONVERGENCE VALUE= .3519E-01 CRITERION= .1203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 903

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*** TIME = .174356E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1046E-04    OSCILLATION LIMIT = 82.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.89    CRITERION= .1230
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2150
    HT FLOW CONVERGENCE VALUE= .3495E-01    CRITERION= .1199    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 904
*** TIME = .175145E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1039E-04    OSCILLATION LIMIT = 81.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.85    CRITERION= .1226
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2164
    HT FLOW CONVERGENCE VALUE= .3498E-01    CRITERION= .1195    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 905
*** TIME = .175934E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1047E-04    OSCILLATION LIMIT = 82.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.88    CRITERION= .1222
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2152
    HT FLOW CONVERGENCE VALUE= .3476E-01    CRITERION= .1191    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 906
*** TIME = .176723E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1039E-04    OSCILLATION LIMIT = 82.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.85    CRITERION= .1218
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2165
    HT FLOW CONVERGENCE VALUE= .3478E-01    CRITERION= .1187    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 907
*** TIME = .177512E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1047E-04    OSCILLATION LIMIT = 82.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.88    CRITERION= .1214
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2154
    HT FLOW CONVERGENCE VALUE= .3456E-01    CRITERION= .1183    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 908
*** TIME = .178300E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1040E-04    OSCILLATION LIMIT = 82.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.84    CRITERION= .1210
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2167
    HT FLOW CONVERGENCE VALUE= .3458E-01    CRITERION= .1179    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 909
*** TIME = .179089E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1048E-04    OSCILLATION LIMIT = 82.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.87    CRITERION= .1207
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2155
    HT FLOW CONVERGENCE VALUE= .3436E-01    CRITERION= .1174    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 910
*** TIME = .179878E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1041E-04    OSCILLATION LIMIT = 82.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 25.83    CRITERION= .1202
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2168
    HT FLOW CONVERGENCE VALUE= .3438E-01    CRITERION= .1171    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 911
*** TIME = .180667E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1049E-04 OSCILLATION LIMIT = 82.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.86 CRITERION= .1199
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2157
HT FLOW CONVERGENCE VALUE= .3416E-01 CRITERION= .1166 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 912
*** TIME = .181456E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1042E-04 OSCILLATION LIMIT = 82.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.83 CRITERION= .1194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2170
HT FLOW CONVERGENCE VALUE= .3418E-01 CRITERION= .1163 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 913
*** TIME = .182245E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1049E-04 OSCILLATION LIMIT = 82.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.86 CRITERION= .1191
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2159
HT FLOW CONVERGENCE VALUE= .3396E-01 CRITERION= .1158 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 914
*** TIME = .183034E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 82.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.82 CRITERION= .1187
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2171
HT FLOW CONVERGENCE VALUE= .3397E-01 CRITERION= .1154 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 915
*** TIME = .183823E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1050E-04 OSCILLATION LIMIT = 82.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.85 CRITERION= .1183
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2161
HT FLOW CONVERGENCE VALUE= .3376E-01 CRITERION= .1150 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 916
*** TIME = .184612E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1043E-04 OSCILLATION LIMIT = 82.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.82 CRITERION= .1179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2173
HT FLOW CONVERGENCE VALUE= .3377E-01 CRITERION= .1146 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 917
*** TIME = .185401E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1050E-04 OSCILLATION LIMIT = 82.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.85 CRITERION= .1175
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2163
HT FLOW CONVERGENCE VALUE= .3357E-01 CRITERION= .1142 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 918
*** TIME = .186190E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1044E-04 OSCILLATION LIMIT = 82.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.81 CRITERION= .1171

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2174
 HT FLOW CONVERGENCE VALUE= .3357E-01 CRITERION= .1138 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 919
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1051E-04 OSCILLATION LIMIT = 82.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.84 CRITERION= .1167
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2165
 HT FLOW CONVERGENCE VALUE= .3336E-01 CRITERION= .1134 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 920
 *** TIME = .187768E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1045E-04 OSCILLATION LIMIT = 82.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.80 CRITERION= .1163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2176
 HT FLOW CONVERGENCE VALUE= .3336E-01 CRITERION= .1130 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 921
 *** TIME = .188557E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1051E-04 OSCILLATION LIMIT = 82.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.83 CRITERION= .1159
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2166
 HT FLOW CONVERGENCE VALUE= .3317E-01 CRITERION= .1126 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 922
 *** TIME = .189346E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1046E-04 OSCILLATION LIMIT = 82.50

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 16:31:06 JUN 14, 1995 CP= 58942.130
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 22.06 CRITERION= .1147
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1773
 HT FLOW CONVERGENCE VALUE= .2751E-01 CRITERION= .1123 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 923
 *** TIME = .190135E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9839E-05 OSCILLATION LIMIT = 77.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .1144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1778
 HT FLOW CONVERGENCE VALUE= .2740E-01 CRITERION= .1119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 924
 *** TIME = .190923E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9869E-05 OSCILLATION LIMIT = 77.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.05 CRITERION= .1141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1794
 HT FLOW CONVERGENCE VALUE= .2749E-01 CRITERION= .1116 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 925
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9989E-05 OSCILLATION LIMIT = 78.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.08 CRITERION= .1138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1779
 HT FLOW CONVERGENCE VALUE= .2726E-01 CRITERION= .1113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 926
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9873E-05 OSCILLATION LIMIT = 77.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.05 CRITERION= .1134
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1795
 HT FLOW CONVERGENCE VALUE= .2735E-01 CRITERION= .1110 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 927
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9993E-05 OSCILLATION LIMIT = 78.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.08 CRITERION= .1131
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1780
 HT FLOW CONVERGENCE VALUE= .2713E-01 CRITERION= .1106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 928
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9880E-05 OSCILLATION LIMIT = 77.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.04 CRITERION= .1128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1796
 HT FLOW CONVERGENCE VALUE= .2721E-01 CRITERION= .1103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 929
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9997E-05 OSCILLATION LIMIT = 78.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.07 CRITERION= .1125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1781
 HT FLOW CONVERGENCE VALUE= .2700E-01 CRITERION= .1100 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 930
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9888E-05 OSCILLATION LIMIT = 78.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.04 CRITERION= .1122
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1797
 HT FLOW CONVERGENCE VALUE= .2707E-01 CRITERION= .1097 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 931
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1000E-04 OSCILLATION LIMIT = 78.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.07 CRITERION= .1119
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1783
 HT FLOW CONVERGENCE VALUE= .2686E-01 CRITERION= .1093 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 932
 *** TIME = .197235E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9895E-05 OSCILLATION LIMIT = 78.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.03 CRITERION= .1115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1798
 HT FLOW CONVERGENCE VALUE= .2693E-01 CRITERION= .1090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 933
 *** TIME = .198024E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .1001E-04  OSCILLATION LIMIT = 78.94
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.06      CRITERION= .1112
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1784
  HT FLOW CONVERGENCE VALUE= .2673E-01  CRITERION= .1087    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  28  SUBSTEP  12 COMPLETED.  CUM ITER =  934
*** TIME = .198813E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9903E-05  OSCILLATION LIMIT = 78.13
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.03      CRITERION= .1109
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1799
  HT FLOW CONVERGENCE VALUE= .2679E-01  CRITERION= .1084    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  28  SUBSTEP  13 COMPLETED.  CUM ITER =  935
*** TIME = .199602E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1001E-04  OSCILLATION LIMIT = 78.97
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.06      CRITERION= .1106
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1785
  HT FLOW CONVERGENCE VALUE= .2659E-01  CRITERION= .1080    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  28  SUBSTEP  14 COMPLETED.  CUM ITER =  936
*** TIME = .200391E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9910E-05  OSCILLATION LIMIT = 78.18
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.02      CRITERION= .1102
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1799
  HT FLOW CONVERGENCE VALUE= .2665E-01  CRITERION= .1077    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  28  SUBSTEP  15 COMPLETED.  CUM ITER =  937
*** TIME = .201180E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1001E-04  OSCILLATION LIMIT = 79.00
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.06      CRITERION= .1099
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1787
  HT FLOW CONVERGENCE VALUE= .2646E-01  CRITERION= .1074    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  28  SUBSTEP  16 COMPLETED.  CUM ITER =  938
*** TIME = .201969E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9917E-05  OSCILLATION LIMIT = 78.24
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.02      CRITERION= .1096
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1800
  HT FLOW CONVERGENCE VALUE= .2652E-01  CRITERION= .1071    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  28  SUBSTEP  17 COMPLETED.  CUM ITER =  939
*** TIME = .202758E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1002E-04  OSCILLATION LIMIT = 79.04
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.05      CRITERION= .1093
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1788
  HT FLOW CONVERGENCE VALUE= .2632E-01  CRITERION= .1067    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP  28  SUBSTEP  18 COMPLETED.  CUM ITER =  940
*** TIME = .203547E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9925E-05  OSCILLATION LIMIT = 78.30
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 22.02      CRITERION= .1090
  EQUIL ITER  1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.1801
  HT FLOW CONVERGENCE VALUE= .2637E-01  CRITERION= .1064    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1

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*** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 941
 *** TIME = .204335E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1002E-04 OSCILLATION LIMIT = 79.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.05 CRITERION= .1087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1789
 HT FLOW CONVERGENCE VALUE= .2620E-01 CRITERION= .1061 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 942
 *** TIME = .205124E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9932E-05 OSCILLATION LIMIT = 78.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.01 CRITERION= .1083
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1802
 HT FLOW CONVERGENCE VALUE= .2627E-01 CRITERION= .1058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 943
 *** TIME = .205913E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1003E-04 OSCILLATION LIMIT = 79.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.04 CRITERION= .1080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1791
 HT FLOW CONVERGENCE VALUE= .2615E-01 CRITERION= .1054 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 944
 *** TIME = .206702E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9939E-05 OSCILLATION LIMIT = 78.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.01 CRITERION= .1077
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1803
 HT FLOW CONVERGENCE VALUE= .2630E-01 CRITERION= .1051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 945
 *** TIME = .207491E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1003E-04 OSCILLATION LIMIT = 79.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.04 CRITERION= .1074
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1792
 HT FLOW CONVERGENCE VALUE= .2629E-01 CRITERION= .1048 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 946
 *** TIME = .208280E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9947E-05 OSCILLATION LIMIT = 78.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.01 CRITERION= .1070
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1804
 HT FLOW CONVERGENCE VALUE= .2653E-01 CRITERION= .1045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 947
 *** TIME = .209069E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1004E-04 OSCILLATION LIMIT = 79.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.04 CRITERION= .1067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1794
 HT FLOW CONVERGENCE VALUE= .2637E-01 CRITERION= .1041 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 948
 *** TIME = .209858E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9955E-05 OSCILLATION LIMIT = 78.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.00 CRITERION= .1064
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1805

HT FLOW CONVERGENCE VALUE= .2640E-01 CRITERION= .1038 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 949
 *** TIME = .210647E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1004E-04 OSCILLATION LIMIT = 79.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.04 CRITERION= .1061
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1795
 HT FLOW CONVERGENCE VALUE= .2626E-01 CRITERION= .1035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 950
 *** TIME = .211436E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9962E-05 OSCILLATION LIMIT = 78.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.00 CRITERION= .1058
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1806
 HT FLOW CONVERGENCE VALUE= .2635E-01 CRITERION= .1031 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 951
 *** TIME = .212225E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1005E-04 OSCILLATION LIMIT = 79.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.03 CRITERION= .1055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1796
 HT FLOW CONVERGENCE VALUE= .2632E-01 CRITERION= .1028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 952
 *** TIME = .213014E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9970E-05 OSCILLATION LIMIT = 78.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.00 CRITERION= .1051
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1807
 HT FLOW CONVERGENCE VALUE= .2655E-01 CRITERION= .1025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 953
 *** TIME = .213803E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1005E-04 OSCILLATION LIMIT = 79.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.03 CRITERION= .1048
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1798
 HT FLOW CONVERGENCE VALUE= .2644E-01 CRITERION= .1021 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 954
 *** TIME = .214592E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9978E-05 OSCILLATION LIMIT = 78.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.00 CRITERION= .1045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1808
 HT FLOW CONVERGENCE VALUE= .2661E-01 CRITERION= .1018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 955
 *** TIME = .215381E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1006E-04 OSCILLATION LIMIT = 79.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.03 CRITERION= .1042
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1799
 HT FLOW CONVERGENCE VALUE= .2662E-01 CRITERION= .1015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 956
 *** TIME = .216170E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9986E-05 OSCILLATION LIMIT = 78.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.00 CRITERION= .1038
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1810
 HT FLOW CONVERGENCE VALUE= .2661E-01 CRITERION= .1012 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 957
 *** TIME = .216959E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1006E-04 OSCILLATION LIMIT = 79.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.03 CRITERION= .1035
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1801
 HT FLOW CONVERGENCE VALUE= .2659E-01 CRITERION= .1008 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 958
 *** TIME = .217747E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9994E-05 OSCILLATION LIMIT = 78.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.00 CRITERION= .1032
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1811
 HT FLOW CONVERGENCE VALUE= .2656E-01 CRITERION= .1005 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 959
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1007E-04 OSCILLATION LIMIT = 79.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.03 CRITERION= .1029
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1802
 HT FLOW CONVERGENCE VALUE= .2638E-01 CRITERION= .1002 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 960
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1000E-04 OSCILLATION LIMIT = 78.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.99 CRITERION= .1026
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1812
 HT FLOW CONVERGENCE VALUE= .2635E-01 CRITERION= .9988E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 961
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1007E-04 OSCILLATION LIMIT = 79.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.03 CRITERION= .1023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1803
 HT FLOW CONVERGENCE VALUE= .2622E-01 CRITERION= .9953E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 962
 *** TIME = .220903E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1001E-04 OSCILLATION LIMIT = 78.97

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:16:48 JUN 14, 1995 CP= 61541.100
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .1020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1584
 HT FLOW CONVERGENCE VALUE= .2436E-01 CRITERION= .9929E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 963
 *** TIME = .221692E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7879E-05 OSCILLATION LIMIT = 62.16

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .1018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1581
 HT FLOW CONVERGENCE VALUE= .2429E-01 CRITERION= .9900E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 964
 *** TIME = .222481E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7838E-05 OSCILLATION LIMIT = 61.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .1015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1593
 HT FLOW CONVERGENCE VALUE= .2429E-01 CRITERION= .9875E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 965
 *** TIME = .223270E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7940E-05 OSCILLATION LIMIT = 62.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .1013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1582
 HT FLOW CONVERGENCE VALUE= .2421E-01 CRITERION= .9847E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 966
 *** TIME = .224059E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7845E-05 OSCILLATION LIMIT = 61.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .1010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1594
 HT FLOW CONVERGENCE VALUE= .2430E-01 CRITERION= .9822E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 967
 *** TIME = .224848E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7944E-05 OSCILLATION LIMIT = 62.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .1008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1583
 HT FLOW CONVERGENCE VALUE= .2431E-01 CRITERION= .9794E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 968
 *** TIME = .225637E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7852E-05 OSCILLATION LIMIT = 61.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .1005
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1595
 HT FLOW CONVERGENCE VALUE= .2428E-01 CRITERION= .9769E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 969
 *** TIME = .226426E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7948E-05 OSCILLATION LIMIT = 62.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .1002
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1584
 HT FLOW CONVERGENCE VALUE= .2410E-01 CRITERION= .9741E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 970
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7860E-05 OSCILLATION LIMIT = 62.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9997E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1596
 HT FLOW CONVERGENCE VALUE= .2400E-01 CRITERION= .9716E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 971

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*** TIME = .228004E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7953E-05 OSCILLATION LIMIT = 62.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9973E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1586
HT FLOW CONVERGENCE VALUE= .2388E-01 CRITERION= .9688E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 972
*** TIME = .228793E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7867E-05 OSCILLATION LIMIT = 62.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9945E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1597
HT FLOW CONVERGENCE VALUE= .2387E-01 CRITERION= .9663E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 973
*** TIME = .229582E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7957E-05 OSCILLATION LIMIT = 62.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9921E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1587
HT FLOW CONVERGENCE VALUE= .2354E-01 CRITERION= .9635E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 974
*** TIME = .230370E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7874E-05 OSCILLATION LIMIT = 62.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9893E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1597
HT FLOW CONVERGENCE VALUE= .2345E-01 CRITERION= .9610E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 975
*** TIME = .231159E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7961E-05 OSCILLATION LIMIT = 62.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9870E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1588
HT FLOW CONVERGENCE VALUE= .2341E-01 CRITERION= .9582E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 976
*** TIME = .231948E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7881E-05 OSCILLATION LIMIT = 62.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9841E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1598
HT FLOW CONVERGENCE VALUE= .2326E-01 CRITERION= .9557E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 977
*** TIME = .232737E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7966E-05 OSCILLATION LIMIT = 62.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9818E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1589
HT FLOW CONVERGENCE VALUE= .2325E-01 CRITERION= .9528E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 978
*** TIME = .233526E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7888E-05 OSCILLATION LIMIT = 62.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9790E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1599
HT FLOW CONVERGENCE VALUE= .2336E-01 CRITERION= .9504E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 979
*** TIME = .234315E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7971E-05 OSCILLATION LIMIT = 62.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9766E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1590
HT FLOW CONVERGENCE VALUE= .2324E-01 CRITERION= .9475E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 980
*** TIME = .235104E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7895E-05 OSCILLATION LIMIT = 62.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9738E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1600
HT FLOW CONVERGENCE VALUE= .2325E-01 CRITERION= .9451E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 981
*** TIME = .235893E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7975E-05 OSCILLATION LIMIT = 62.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9714E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1591
HT FLOW CONVERGENCE VALUE= .2312E-01 CRITERION= .9422E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 982
*** TIME = .236682E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7901E-05 OSCILLATION LIMIT = 62.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9686E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1600
HT FLOW CONVERGENCE VALUE= .2306E-01 CRITERION= .9398E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 983
*** TIME = .237471E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7979E-05 OSCILLATION LIMIT = 62.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9663E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1592
HT FLOW CONVERGENCE VALUE= .2293E-01 CRITERION= .9369E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 984
*** TIME = .238260E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7908E-05 OSCILLATION LIMIT = 62.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.50 CRITERION= .9635E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1601
HT FLOW CONVERGENCE VALUE= .2282E-01 CRITERION= .9344E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 985
*** TIME = .239049E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7983E-05 OSCILLATION LIMIT = 62.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9611E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1593
HT FLOW CONVERGENCE VALUE= .2269E-01 CRITERION= .9316E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 986
*** TIME = .239838E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7914E-05 OSCILLATION LIMIT = 62.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9583E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1602
 HT FLOW CONVERGENCE VALUE= .2270E-01 CRITERION= .9291E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 987
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7987E-05 OSCILLATION LIMIT = 63.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9559E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1594
 HT FLOW CONVERGENCE VALUE= .2244E-01 CRITERION= .9263E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 988
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7920E-05 OSCILLATION LIMIT = 62.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9531E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
 HT FLOW CONVERGENCE VALUE= .2240E-01 CRITERION= .9238E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 989
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7991E-05 OSCILLATION LIMIT = 63.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9508E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1595
 HT FLOW CONVERGENCE VALUE= .2241E-01 CRITERION= .9210E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 990
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7927E-05 OSCILLATION LIMIT = 62.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9480E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1603
 HT FLOW CONVERGENCE VALUE= .2241E-01 CRITERION= .9185E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 991
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7996E-05 OSCILLATION LIMIT = 63.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9456E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1596
 HT FLOW CONVERGENCE VALUE= .2229E-01 CRITERION= .9156E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 992
 *** TIME = .244571E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7933E-05 OSCILLATION LIMIT = 62.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9428E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1604
 HT FLOW CONVERGENCE VALUE= .2229E-01 CRITERION= .9132E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 993
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8000E-05 OSCILLATION LIMIT = 63.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9405E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1597
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .9103E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 994
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7939E-05 OSCILLATION LIMIT = 62.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9376E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1605
 HT FLOW CONVERGENCE VALUE= .2218E-01 CRITERION= .9079E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 995
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8004E-05 OSCILLATION LIMIT = 63.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9353E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1598
 HT FLOW CONVERGENCE VALUE= .2207E-01 CRITERION= .9050E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 996
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7945E-05 OSCILLATION LIMIT = 62.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9325E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
 HT FLOW CONVERGENCE VALUE= .2206E-01 CRITERION= .9025E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 997
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8008E-05 OSCILLATION LIMIT = 63.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9301E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1599
 HT FLOW CONVERGENCE VALUE= .2195E-01 CRITERION= .8997E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 998
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7951E-05 OSCILLATION LIMIT = 62.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9273E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1606
 HT FLOW CONVERGENCE VALUE= .2194E-01 CRITERION= .8972E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 999
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8012E-05 OSCILLATION LIMIT = 63.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9250E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1600
 HT FLOW CONVERGENCE VALUE= .2184E-01 CRITERION= .8944E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 1000
 *** TIME = .250883E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7957E-05 OSCILLATION LIMIT = 62.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.51 CRITERION= .9222E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1607
 HT FLOW CONVERGENCE VALUE= .2183E-01 CRITERION= .8919E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 1001
 *** TIME = .251672E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8016E-05 OSCILLATION LIMIT = 63.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.54 CRITERION= .9198E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1601
 HT FLOW CONVERGENCE VALUE= .2173E-01 CRITERION= .8890E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 1002
 *** TIME = .252461E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7963E-05 OSCILLATION LIMIT = 62.82

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:07:04 JUN 14, 1995 CP= 64232.610
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .9050E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1234
 HT FLOW CONVERGENCE VALUE= .1663E-01 CRITERION= .8871E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 1003
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8285E-05 OSCILLATION LIMIT = 65.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .9032E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1239
 HT FLOW CONVERGENCE VALUE= .1657E-01 CRITERION= .8849E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 1004
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8325E-05 OSCILLATION LIMIT = 65.68
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .9009E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
 HT FLOW CONVERGENCE VALUE= .1664E-01 CRITERION= .8829E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 1005
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8460E-05 OSCILLATION LIMIT = 66.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8991E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1239
 HT FLOW CONVERGENCE VALUE= .1651E-01 CRITERION= .8807E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 1006
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8327E-05 OSCILLATION LIMIT = 65.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8968E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
 HT FLOW CONVERGENCE VALUE= .1656E-01 CRITERION= .8787E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 1007
 *** TIME = .256406E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8462E-05 OSCILLATION LIMIT = 66.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8949E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1240
 HT FLOW CONVERGENCE VALUE= .1644E-01 CRITERION= .8765E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 1008
 *** TIME = .257194E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8333E-05 OSCILLATION LIMIT = 65.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8927E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
 HT FLOW CONVERGENCE VALUE= .1649E-01 CRITERION= .8746E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1


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*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 1009
*** TIME = .257983E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8464E-05 OSCILLATION LIMIT = 66.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8908E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1241
HT FLOW CONVERGENCE VALUE= .1637E-01 CRITERION= .8723E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 1010
*** TIME = .258772E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8339E-05 OSCILLATION LIMIT = 65.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8885E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1253
HT FLOW CONVERGENCE VALUE= .1642E-01 CRITERION= .8704E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 1011
*** TIME = .259561E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8466E-05 OSCILLATION LIMIT = 66.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8867E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1241
HT FLOW CONVERGENCE VALUE= .1630E-01 CRITERION= .8681E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 1012
*** TIME = .260350E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8345E-05 OSCILLATION LIMIT = 65.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8844E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1253
HT FLOW CONVERGENCE VALUE= .1635E-01 CRITERION= .8662E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 1013
*** TIME = .261139E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8468E-05 OSCILLATION LIMIT = 66.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8826E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1242
HT FLOW CONVERGENCE VALUE= .1623E-01 CRITERION= .8639E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 1014
*** TIME = .261928E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8351E-05 OSCILLATION LIMIT = 65.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8803E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1253
HT FLOW CONVERGENCE VALUE= .1628E-01 CRITERION= .8620E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 1015
*** TIME = .262717E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8470E-05 OSCILLATION LIMIT = 66.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8785E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1243
HT FLOW CONVERGENCE VALUE= .1616E-01 CRITERION= .8597E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 1016
*** TIME = .263506E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8357E-05 OSCILLATION LIMIT = 65.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8762E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1254

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HT FLOW CONVERGENCE VALUE= .1621E-01 CRITERION= .8578E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 1017
 *** TIME = .264295E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8472E-05 OSCILLATION LIMIT = 66.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8744E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1244
 HT FLOW CONVERGENCE VALUE= .1609E-01 CRITERION= .8555E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 1018
 *** TIME = .265084E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8362E-05 OSCILLATION LIMIT = 65.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8721E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1254
 HT FLOW CONVERGENCE VALUE= .1613E-01 CRITERION= .8536E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 1019
 *** TIME = .265873E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8475E-05 OSCILLATION LIMIT = 66.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8702E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1244
 HT FLOW CONVERGENCE VALUE= .1603E-01 CRITERION= .8513E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 1020
 *** TIME = .266662E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8368E-05 OSCILLATION LIMIT = 66.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8680E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1254
 HT FLOW CONVERGENCE VALUE= .1606E-01 CRITERION= .8494E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 1021
 *** TIME = .267451E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8477E-05 OSCILLATION LIMIT = 66.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8661E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1245
 HT FLOW CONVERGENCE VALUE= .1596E-01 CRITERION= .8471E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 1022
 *** TIME = .268240E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8374E-05 OSCILLATION LIMIT = 66.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8639E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1255
 HT FLOW CONVERGENCE VALUE= .1599E-01 CRITERION= .8452E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 1023
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8479E-05 OSCILLATION LIMIT = 66.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8620E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1246
 HT FLOW CONVERGENCE VALUE= .1589E-01 CRITERION= .8429E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 1024
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8379E-05 OSCILLATION LIMIT = 66.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8597E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1255
 HT FLOW CONVERGENCE VALUE= .1592E-01 CRITERION= .8410E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 1025
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8482E-05 OSCILLATION LIMIT = 66.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8579E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1246
 HT FLOW CONVERGENCE VALUE= .1582E-01 CRITERION= .8387E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 1026
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8385E-05 OSCILLATION LIMIT = 66.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.96 CRITERION= .8556E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1256
 HT FLOW CONVERGENCE VALUE= .1585E-01 CRITERION= .8368E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 1027
 *** TIME = .272184E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8484E-05 OSCILLATION LIMIT = 66.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8538E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1247
 HT FLOW CONVERGENCE VALUE= .1575E-01 CRITERION= .8345E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 1028
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8390E-05 OSCILLATION LIMIT = 66.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .8515E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1256
 HT FLOW CONVERGENCE VALUE= .1577E-01 CRITERION= .8326E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 1029
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8487E-05 OSCILLATION LIMIT = 66.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8497E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1248
 HT FLOW CONVERGENCE VALUE= .1568E-01 CRITERION= .8303E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 1030
 *** TIME = .274551E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8396E-05 OSCILLATION LIMIT = 66.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .8474E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1256
 HT FLOW CONVERGENCE VALUE= .1570E-01 CRITERION= .8284E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 1031
 *** TIME = .275340E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8490E-05 OSCILLATION LIMIT = 66.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8456E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1248
 HT FLOW CONVERGENCE VALUE= .1561E-01 CRITERION= .8261E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 1032
 *** TIME = .276129E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8401E-05 OSCILLATION LIMIT = 66.28

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .8433E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1257
 HT FLOW CONVERGENCE VALUE= .1563E-01 CRITERION= .8242E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 1033
 *** TIME = .276918E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8492E-05 OSCILLATION LIMIT = 67.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8415E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1249
 HT FLOW CONVERGENCE VALUE= .1554E-01 CRITERION= .8219E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 1034
 *** TIME = .277707E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8407E-05 OSCILLATION LIMIT = 66.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .8392E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1257
 HT FLOW CONVERGENCE VALUE= .1556E-01 CRITERION= .8200E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 1035
 *** TIME = .278496E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8495E-05 OSCILLATION LIMIT = 67.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8373E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1250
 HT FLOW CONVERGENCE VALUE= .1547E-01 CRITERION= .8177E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 1036
 *** TIME = .279285E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8412E-05 OSCILLATION LIMIT = 66.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .8351E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1258
 HT FLOW CONVERGENCE VALUE= .1549E-01 CRITERION= .8158E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 1037
 *** TIME = .280074E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8498E-05 OSCILLATION LIMIT = 67.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8332E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1251
 HT FLOW CONVERGENCE VALUE= .1540E-01 CRITERION= .8135E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 1038
 *** TIME = .280863E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8417E-05 OSCILLATION LIMIT = 66.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.97 CRITERION= .8310E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1258
 HT FLOW CONVERGENCE VALUE= .1541E-01 CRITERION= .8116E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 1039
 *** TIME = .281652E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8500E-05 OSCILLATION LIMIT = 67.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.00 CRITERION= .8291E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1251
 HT FLOW CONVERGENCE VALUE= .1533E-01 CRITERION= .8093E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 1040

```

*** TIME = .282441E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8423E-05    OSCILLATION LIMIT = 66.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.97    CRITERION= .8268E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1259
    HT FLOW CONVERGENCE VALUE= .1534E-01    CRITERION= .8074E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 1041
*** TIME = .283229E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8503E-05    OSCILLATION LIMIT = 67.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 17.00    CRITERION= .8250E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1252
    HT FLOW CONVERGENCE VALUE= .1526E-01    CRITERION= .8051E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 1042
*** TIME = .284018E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8428E-05    OSCILLATION LIMIT = 66.49
    Apply loads and solve for 100 to 1000 years

```

```

*DO LOOP ON PARAMETER= TM    FROM .31558E+10 TO .31558E+11 BY .31558E+10

TIME= .31558E+10

```

```

SELECT    FOR ITEM=MAT    COMPONENT=
IN RANGE    14 TO    14 STEP    1

```

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

```

SELECT    ELEMENTS CREATED FROM SELECTED AREAS.

```

```

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

```

```

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION    1
1285.61410    .000000000E+00    .000000000E+00    .000000000E+00

```

```

ALL SELECT    FOR ITEM=AREA COMPONENT=
IN RANGE    1 TO    94 STEP    1

```

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

```

ALL SELECT    FOR ITEM=ELEM COMPONENT=
IN RANGE    1 TO    5561 STEP    1

```

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

```

CONSTRAINT AT KEYPOINT    11
LOAD LABELS = TEMP
VALUES =    92.923    .00000E+00    EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT    10
LOAD LABELS = TEMP
VALUES =    93.292    .00000E+00    EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT    9
LOAD LABELS = TEMP
VALUES =    94.113    .00000E+00    EXPANSION KEY = 1

```

```

***** ANSYS SOLVE    COMMAND *****

```

```

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS    TRANSFERRED FROM KEYPOINTS    = 129

```

```

*** NOTE ***    CP= 66804.190    TIME= 19:51:30
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.
1

```

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:51:30 JUN 14, 1995 CP= 66804.190
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 31
 TIME AT END OF THE LOAD STEP.31558E+10
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .8181E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1089
 HT FLOW CONVERGENCE VALUE= .1319E-01 CRITERION= .8035E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 1043
 *** TIME = .284807E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8633E-05 OSCILLATION LIMIT = 68.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .8165E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1086
 HT FLOW CONVERGENCE VALUE= .1313E-01 CRITERION= .8014E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 1044
 *** TIME = .285596E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8597E-05 OSCILLATION LIMIT = 67.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .8145E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1096
 HT FLOW CONVERGENCE VALUE= .1317E-01 CRITERION= .7998E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 1045
 *** TIME = .286385E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8717E-05 OSCILLATION LIMIT = 68.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .8129E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1087
 HT FLOW CONVERGENCE VALUE= .1307E-01 CRITERION= .7978E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 1046
 *** TIME = .287174E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8601E-05 OSCILLATION LIMIT = 67.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .8109E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1096

HT FLOW CONVERGENCE VALUE= .1311E-01 CRITERION= .7961E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 1047
 *** TIME = .287963E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8719E-05 OSCILLATION LIMIT = 68.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .8093E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1087
 HT FLOW CONVERGENCE VALUE= .1302E-01 CRITERION= .7941E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 1048
 *** TIME = .288752E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8606E-05 OSCILLATION LIMIT = 67.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .8072E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1097
 HT FLOW CONVERGENCE VALUE= .1305E-01 CRITERION= .7924E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 1049
 *** TIME = .289541E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8721E-05 OSCILLATION LIMIT = 68.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .8056E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1088
 HT FLOW CONVERGENCE VALUE= .1297E-01 CRITERION= .7904E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 1050
 *** TIME = .290330E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8612E-05 OSCILLATION LIMIT = 67.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .8036E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1097
 HT FLOW CONVERGENCE VALUE= .1300E-01 CRITERION= .7888E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 1051
 *** TIME = .291119E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8723E-05 OSCILLATION LIMIT = 68.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .8020E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1089
 HT FLOW CONVERGENCE VALUE= .1291E-01 CRITERION= .7867E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 1052
 *** TIME = .291908E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8617E-05 OSCILLATION LIMIT = 67.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .8000E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1097
 HT FLOW CONVERGENCE VALUE= .1294E-01 CRITERION= .7851E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 1053
 *** TIME = .292697E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8725E-05 OSCILLATION LIMIT = 68.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7984E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1089
 HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .7831E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 1054
 *** TIME = .293486E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8622E-05 OSCILLATION LIMIT = 68.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .7964E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1098
 HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .7814E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 1055
 *** TIME = .294275E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8727E-05 OSCILLATION LIMIT = 68.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7948E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1090
 HT FLOW CONVERGENCE VALUE= .1281E-01 CRITERION= .7794E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 1056
 *** TIME = .295064E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8627E-05 OSCILLATION LIMIT = 68.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .7928E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1098
 HT FLOW CONVERGENCE VALUE= .1283E-01 CRITERION= .7777E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 1057
 *** TIME = .295853E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8729E-05 OSCILLATION LIMIT = 68.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7912E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1090
 HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .7757E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 1058
 *** TIME = .296641E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8633E-05 OSCILLATION LIMIT = 68.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .7892E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1098
 HT FLOW CONVERGENCE VALUE= .1278E-01 CRITERION= .7740E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 1059
 *** TIME = .297430E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8731E-05 OSCILLATION LIMIT = 68.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7876E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1091
 HT FLOW CONVERGENCE VALUE= .1270E-01 CRITERION= .7720E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 1060
 *** TIME = .298219E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8638E-05 OSCILLATION LIMIT = 68.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .7855E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1098
 HT FLOW CONVERGENCE VALUE= .1272E-01 CRITERION= .7704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 1061
 *** TIME = .299008E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8733E-05 OSCILLATION LIMIT = 68.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7840E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1091
 HT FLOW CONVERGENCE VALUE= .1265E-01 CRITERION= .7683E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 1062
 *** TIME = .299797E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8643E-05 OSCILLATION LIMIT = 68.19

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .7819E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1099
 HT FLOW CONVERGENCE VALUE= .1267E-01 CRITERION= .7667E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 1063
 *** TIME = .300586E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8735E-05 OSCILLATION LIMIT = 68.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7803E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1092
 HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .7647E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 1064
 *** TIME = .301375E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8648E-05 OSCILLATION LIMIT = 68.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.54 CRITERION= .7783E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1099
 HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .7630E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 1065
 *** TIME = .302164E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8737E-05 OSCILLATION LIMIT = 68.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7767E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1093
 HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .7610E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 1066
 *** TIME = .302953E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8653E-05 OSCILLATION LIMIT = 68.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55 CRITERION= .7747E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1099
 HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .7593E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 1067
 *** TIME = .303742E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8739E-05 OSCILLATION LIMIT = 68.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7731E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1093
 HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .7573E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 1068
 *** TIME = .304531E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8657E-05 OSCILLATION LIMIT = 68.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55 CRITERION= .7711E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1100
 HT FLOW CONVERGENCE VALUE= .1250E-01 CRITERION= .7556E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 1069
 *** TIME = .305320E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8741E-05 OSCILLATION LIMIT = 68.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7695E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1094
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .7536E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 1070

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*** TIME = .306109E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8662E-05    OSCILLATION LIMIT = 68.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55    CRITERION= .7675E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1100
HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .7520E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 1071
*** TIME = .306898E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8743E-05    OSCILLATION LIMIT = 68.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58    CRITERION= .7659E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1094
HT FLOW CONVERGENCE VALUE= .1242E-01 CRITERION= .7499E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 1072
*** TIME = .307687E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8667E-05    OSCILLATION LIMIT = 68.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55    CRITERION= .7639E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1100
HT FLOW CONVERGENCE VALUE= .1248E-01 CRITERION= .7483E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 1073
*** TIME = .308476E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8746E-05    OSCILLATION LIMIT = 69.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58    CRITERION= .7623E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1095
HT FLOW CONVERGENCE VALUE= .1241E-01 CRITERION= .7463E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 1074
*** TIME = .309264E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8671E-05    OSCILLATION LIMIT = 68.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55    CRITERION= .7602E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1101
HT FLOW CONVERGENCE VALUE= .1242E-01 CRITERION= .7446E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 1075
*** TIME = .310053E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8748E-05    OSCILLATION LIMIT = 69.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58    CRITERION= .7587E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1095
HT FLOW CONVERGENCE VALUE= .1235E-01 CRITERION= .7426E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 1076
*** TIME = .310842E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8676E-05    OSCILLATION LIMIT = 68.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55    CRITERION= .7566E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1101
HT FLOW CONVERGENCE VALUE= .1233E-01 CRITERION= .7409E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 1077
*** TIME = .311631E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8750E-05    OSCILLATION LIMIT = 69.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58    CRITERION= .7550E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1096
HT FLOW CONVERGENCE VALUE= .1226E-01 CRITERION= .7389E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 1078
*** TIME = .312420E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8681E-05 OSCILLATION LIMIT = 68.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55 CRITERION= .7530E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1101
HT FLOW CONVERGENCE VALUE= .1230E-01 CRITERION= .7372E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 1079
*** TIME = .313209E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8753E-05 OSCILLATION LIMIT = 69.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7514E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1096
HT FLOW CONVERGENCE VALUE= .1218E-01 CRITERION= .7352E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 1080
*** TIME = .313998E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8685E-05 OSCILLATION LIMIT = 68.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.55 CRITERION= .7494E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1102
HT FLOW CONVERGENCE VALUE= .1224E-01 CRITERION= .7336E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 1081
*** TIME = .314787E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8755E-05 OSCILLATION LIMIT = 69.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.58 CRITERION= .7478E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1097
HT FLOW CONVERGENCE VALUE= .1212E-01 CRITERION= .7315E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 1082
*** TIME = .315576E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8690E-05 OSCILLATION LIMIT = 68.56

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:35:07 JUN 14, 1995 CP= 69371.500
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 78.62 CRITERION= .1074
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5271
HT FLOW CONVERGENCE VALUE= .5999E-01 CRITERION= .7239E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 1083
*** TIME = .323465E+10 TIME INC = .788940E+08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 78.65 CRITERION= .1069
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5095
HT FLOW CONVERGENCE VALUE= .5857E-01 CRITERION= .7159E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 1084
*** TIME = .331355E+10 TIME INC = .788940E+08
*** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 235.9 CRITERION= .2465

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.574
 HT FLOW CONVERGENCE VALUE= .1704 CRITERION= .6926E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6073E-01
 HT FLOW CONVERGENCE VALUE= .2659E-02 CRITERION= .6926E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 1086
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 235.9 CRITERION= .2459
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.597
 HT FLOW CONVERGENCE VALUE= .1662 CRITERION= .6690E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5963E-01
 HT FLOW CONVERGENCE VALUE= .2530E-02 CRITERION= .6689E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 1088
 *** TIME = .378691E+10 TIME INC = .236682E+09
 *** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 629.1 CRITERION= .6327
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.265
 HT FLOW CONVERGENCE VALUE= .3740 CRITERION= .6066E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1438
 HT FLOW CONVERGENCE VALUE= .5190E-02 CRITERION= .6064E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 1090
 *** TIME = .441806E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 629.2 CRITERION= .6321
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.283
 HT FLOW CONVERGENCE VALUE= .3298 CRITERION= .5435E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1303
 HT FLOW CONVERGENCE VALUE= .3894E-02 CRITERION= .5433E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 1092
 *** TIME = .504922E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 629.3 CRITERION= .6316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.303
 HT FLOW CONVERGENCE VALUE= .2803 CRITERION= .4807E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1176
 HT FLOW CONVERGENCE VALUE= .2932E-02 CRITERION= .4806E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1094
 *** TIME = .568037E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 629.4 CRITERION= .6312
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.320
 HT FLOW CONVERGENCE VALUE= .2260 CRITERION= .4175E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1023
 HT FLOW CONVERGENCE VALUE= .1939E-02 CRITERION= .4173E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1096
 *** TIME = .631152E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:47:00 JUN 14, 1995 CP= 70073.240
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 271.7 CRITERION= .2748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.553

HT FLOW CONVERGENCE VALUE= .8558E-01 CRITERION= .3980E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3551E-01
 HT FLOW CONVERGENCE VALUE= .7111E-03 CRITERION= .3979E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1098
 *** TIME = .694267E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 271.7 CRITERION= .2746
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.552
 HT FLOW CONVERGENCE VALUE= .8142E-01 CRITERION= .3783E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3279E-01
 HT FLOW CONVERGENCE VALUE= .6279E-03 CRITERION= .3782E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1100
 *** TIME = .757382E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 271.7 CRITERION= .2743
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.556
 HT FLOW CONVERGENCE VALUE= .7660E-01 CRITERION= .3589E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3100E-01
 HT FLOW CONVERGENCE VALUE= .5645E-03 CRITERION= .3589E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1102
 *** TIME = .820498E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 271.7 CRITERION= .2741
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.556
 HT FLOW CONVERGENCE VALUE= .7314E-01 CRITERION= .3392E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2933E-01
 HT FLOW CONVERGENCE VALUE= .5098E-03 CRITERION= .3391E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1104
 *** TIME = .883613E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 271.7 CRITERION= .2738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.561
 HT FLOW CONVERGENCE VALUE= .6917E-01 CRITERION= .3198E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2783E-01
 HT FLOW CONVERGENCE VALUE= .4552E-03 CRITERION= .3197E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1106
 *** TIME = .946728E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:55:05 JUN 14, 1995 CP= 70551.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 157.2 CRITERION= .1604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8823
 HT FLOW CONVERGENCE VALUE= .3852E-01 CRITERION= .3087E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1544E-01
 HT FLOW CONVERGENCE VALUE= .2474E-03 CRITERION= .3087E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1108
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 157.2 CRITERION= .1602
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8848
 HT FLOW CONVERGENCE VALUE= .3724E-01 CRITERION= .2981E-01

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498E-01
 HT FLOW CONVERGENCE VALUE= .2312E-03 CRITERION= .2980E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1110
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 157.3 CRITERION= .1600
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8836
 HT FLOW CONVERGENCE VALUE= .3588E-01 CRITERION= .2870E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1447E-01
 HT FLOW CONVERGENCE VALUE= .2153E-03 CRITERION= .2870E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1112
 *** TIME = .113607E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 157.2 CRITERION= .1598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8862
 HT FLOW CONVERGENCE VALUE= .3459E-01 CRITERION= .2763E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1399E-01
 HT FLOW CONVERGENCE VALUE= .2001E-03 CRITERION= .2763E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1114
 *** TIME = .119919E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 157.3 CRITERION= .1597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8849
 HT FLOW CONVERGENCE VALUE= .3322E-01 CRITERION= .2653E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1347E-01
 HT FLOW CONVERGENCE VALUE= .1851E-03 CRITERION= .2653E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1116
 *** TIME = .126230E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:03:12 JUN 14, 1995 CP= 71029.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 116.3 CRITERION= .1193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6195
 HT FLOW CONVERGENCE VALUE= .2336E-01 CRITERION= .2583E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1117
 *** TIME = .132542E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 116.3 CRITERION= .1192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6084
 HT FLOW CONVERGENCE VALUE= .2260E-01 CRITERION= .2510E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1118
 *** TIME = .138853E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 116.3 CRITERION= .1190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6111
 HT FLOW CONVERGENCE VALUE= .2200E-01 CRITERION= .2440E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1119
 *** TIME = .145165E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 116.4 CRITERION= .1189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6096
 HT FLOW CONVERGENCE VALUE= .2134E-01 CRITERION= .2367E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1120
 *** TIME = .151476E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 116.3 CRITERION= .1187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6122
 HT FLOW CONVERGENCE VALUE= .2074E-01 CRITERION= .2297E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1121
 *** TIME = .157788E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:08:43 JUN 14, 1995 CP= 71354.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 115.3 CRITERION= .1176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5451
 HT FLOW CONVERGENCE VALUE= .1911E-01 CRITERION= .2238E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1122
 *** TIME = .164100E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.3 CRITERION= .1174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5482
 HT FLOW CONVERGENCE VALUE= .1866E-01 CRITERION= .2183E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1123
 *** TIME = .170411E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.3 CRITERION= .1174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5466
 HT FLOW CONVERGENCE VALUE= .1816E-01 CRITERION= .2124E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1124
 *** TIME = .176723E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.3 CRITERION= .1172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5490
 HT FLOW CONVERGENCE VALUE= .1773E-01 CRITERION= .2069E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1125
 *** TIME = .183034E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 115.3 CRITERION= .1172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5474
 HT FLOW CONVERGENCE VALUE= .1723E-01 CRITERION= .2011E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1126
 *** TIME = .189346E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:14:17 JUN 14, 1995 CP= 71679.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 99.13 CRITERION= .1012
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4470
 HT FLOW CONVERGENCE VALUE= .1420E-01 CRITERION= .1969E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1127
 *** TIME = .195657E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.17 CRITERION= .1011
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4464
 HT FLOW CONVERGENCE VALUE= .1388E-01 CRITERION= .1924E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1128
 *** TIME = .201969E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.14 CRITERION= .1010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4487
 HT FLOW CONVERGENCE VALUE= .1360E-01 CRITERION= .1883E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1129
 *** TIME = .208280E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.17 CRITERION= .1009
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4470
 HT FLOW CONVERGENCE VALUE= .1328E-01 CRITERION= .1838E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1130
 *** TIME = .214592E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.14 CRITERION= .1008
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4493
 HT FLOW CONVERGENCE VALUE= .1300E-01 CRITERION= .1797E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1131
 *** TIME = .220903E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:19:49 JUN 14, 1995 CP= 72005.040
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 87.86 CRITERION= .8966E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3909
 HT FLOW CONVERGENCE VALUE= .1121E-01 CRITERION= .1758E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1132
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.82 CRITERION= .8957E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3938
 HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .1723E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1133
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.86 CRITERION= .8952E-01

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3920
 HT FLOW CONVERGENCE VALUE= .1075E-01 CRITERION= .1684E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1134
 *** TIME = .239838E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.83 CRITERION= .8943E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3942
 HT FLOW CONVERGENCE VALUE= .1054E-01 CRITERION= .1648E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1135
 *** TIME = .246149E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 87.86 CRITERION= .8938E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3924
 HT FLOW CONVERGENCE VALUE= .1029E-01 CRITERION= .1610E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1136
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:25:21 JUN 14, 1995 CP= 72330.340
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 77.65 CRITERION= .7931E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3346
 HT FLOW CONVERGENCE VALUE= .8803E-02 CRITERION= .1582E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1137
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.69 CRITERION= .7927E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3332
 HT FLOW CONVERGENCE VALUE= .8625E-02 CRITERION= .1550E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1138
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.66 CRITERION= .7920E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3354
 HT FLOW CONVERGENCE VALUE= .8484E-02 CRITERION= .1523E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1139
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.69 CRITERION= .7916E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3335
 HT FLOW CONVERGENCE VALUE= .8302E-02 CRITERION= .1491E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1140
 *** TIME = .277707E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 77.66 CRITERION= .7908E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3357
 HT FLOW CONVERGENCE VALUE= .8160E-02 CRITERION= .1463E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1141
 *** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:30:56 JUN 14, 1995 CP= 72655.920
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 66.93 CRITERION= .6851E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2824
HT FLOW CONVERGENCE VALUE= .6855E-02 CRITERION= .1437E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1142
*** TIME = .290330E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 66.90 CRITERION= .6843E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2850
HT FLOW CONVERGENCE VALUE= .6761E-02 CRITERION= .1415E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1143
*** TIME = .296641E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 66.94 CRITERION= .6840E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2830
HT FLOW CONVERGENCE VALUE= .6629E-02 CRITERION= .1388E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1144
*** TIME = .302953E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 66.90 CRITERION= .6834E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2852
HT FLOW CONVERGENCE VALUE= .6532E-02 CRITERION= .1366E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1145
*** TIME = .309264E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 66.94 CRITERION= .6831E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2832
HT FLOW CONVERGENCE VALUE= .6400E-02 CRITERION= .1340E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1146
*** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 72979.240

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21w.db
FOR POSSIBLE RESUME FROM THIS POINT

Create element contour plots of solution results

Sort through solution results for time of max temp.

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:36:35 JUN 14, 1995 CP= 72985.260
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= peakclad

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	peakclad	77.15	.3156E+11	224.0	.3156E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 31557631.6

***** ROUTINE COMPLETED ***** CP = 72985.530

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:36:37 JUN 14, 1995 CP= 72985.570
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****
Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4459 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+08

SET COMMAND GOT LOAD STEP= 13 SUBSTEP= 40 CUMULATIVE ITERATION= 362
TIME/FREQUENCY= .31558E+08

TITLE=
21 PWR UCF/WP at Time of Peak Temp. (1.000001 years)

/SHOW SWITCH PLOTS TO FILE solupk.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 AUTOMATIC CONTOURS

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solupk.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at Time of Peak Temp. (1.000001 years)

*** WARNING *** CP= 73023.040 TIME= 21:37:19
The selected element set contains mixed materials.
This could invalidate error estimation.
Create temperature contour plots at 10, 50, and 100 yrs

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+09

SET COMMAND GOT LOAD STEP= 22 SUBSTEP= 40 CUMULATIVE ITERATION= 722
TIME/FREQUENCY= .31558E+09

TITLE=
21 PWR UCF/WP at 10 years

/SHOW SWITCH PLOTS TO FILE solu10.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 108.38 BY .91065 TO 224.03

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 10 years

*** WARNING *** CP= 73070.430 TIME= 21:38:10
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+10

SET COMMAND GOT LOAD STEP= 26 SUBSTEP= 40 CUMULATIVE ITERATION= 882
TIME/FREQUENCY= .15779E+10

TITLE=
21 PWR UCF/WP at 50 years

/SHOW SWITCH PLOTS TO FILE solu50.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 108.38 BY .91065 TO 224.03

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 50 years

*** WARNING *** CP= 73117.570 TIME= 21:39:01
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+10

SET COMMAND GOT LOAD STEP= 31 SUBSTEP= 40 CUMULATIVE ITERATION= 1082
TIME/FREQUENCY= .31558E+10

TITLE=
21 PWR UCF/WP at 100 years

/SHOW SWITCH PLOTS TO FILE solu100.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 108.38 BY .91065 TO 224.03

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 100 years

*** WARNING *** CP= 73163.640 TIME= 21:39:47
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 73172.510

Print time/temperature output at specific locations
Save profile from center to edge

Variable Legend: A01i000

c = center of assembly
h = halfway between center and tube
s = inside structural stainless tube layer
t = stainless tube cladding
g = tube guide
i = inner barrier of DC
o = outer barrier of DC
= ID number of assembly (01 is center)
i = side of assembly toward center of WP
o = side of assembly toward edge of WP
000 = profile center down
045 = profile 45 deg down
090 = profile center side
135 = profile 45 deg up
180 = profile center up

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:39:56 JUN 14, 1995 CP= 73172.510
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 30

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i000
 VARIABLE 3 IS AT NODE 6 ITEM= TEMP COMP= NAME= h01o000
 VARIABLE 4 IS AT NODE 1 ITEM= TEMP COMP= NAME= s01o000
 VARIABLE 5 IS AT NODE 346 ITEM= TEMP COMP= NAME= t01o000
 VARIABLE 6 IS AT NODE 3820 ITEM= TEMP COMP= NAME= ts1o000
 VARIABLE 7 IS AT NODE 858 ITEM= TEMP COMP= NAME= t06i000
 VARIABLE 8 IS AT NODE 695 ITEM= TEMP COMP= NAME= s06i000
 VARIABLE 9 IS AT NODE 706 ITEM= TEMP COMP= NAME= h06i000
 VARIABLE 10 IS AT NODE 702 ITEM= TEMP COMP= NAME= c06i000
 VARIABLE 11 IS AT NODE 699 ITEM= TEMP COMP= NAME= h06o000
 VARIABLE 12 IS AT NODE 694 ITEM= TEMP COMP= NAME= s06o000
 VARIABLE 13 IS AT NODE 814 ITEM= TEMP COMP= NAME= t13i000
 VARIABLE 14 IS AT NODE 1051 ITEM= TEMP COMP= NAME= s13i000
 VARIABLE 15 IS AT NODE 1062 ITEM= TEMP COMP= NAME= h13i000
 VARIABLE 16 IS AT NODE 1058 ITEM= TEMP COMP= NAME= c13i000
 VARIABLE 17 IS AT NODE 1055 ITEM= TEMP COMP= NAME= h13o000
 VARIABLE 18 IS AT NODE 1050 ITEM= TEMP COMP= NAME= s13o000
 VARIABLE 19 IS AT NODE 1170 ITEM= TEMP COMP= NAME= t13o000
 VARIABLE 20 IS AT NODE 4304 ITEM= TEMP COMP= NAME= i13i000
 VARIABLE 21 IS AT NODE 4240 ITEM= TEMP COMP= NAME= i13o000
 VARIABLE 22 IS AT NODE 4487 ITEM= TEMP COMP= NAME= o13o000

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i000	77.15	.3156E+11	224.0	.3156E+08
3	NSOL	6 TEMP	h01o000	76.90	.3156E+11	220.2	.3156E+08
4	NSOL	1 TEMP	s01o000	75.58	.3156E+11	199.4	.6312E+08
5	NSOL	346 TEMP	t01o000	75.57	.3156E+11	199.3	.6312E+08
6	NSOL	3820 TEMP	ts1o000	75.57	.3156E+11	199.3	.6312E+08
7	NSOL	858 TEMP	t06i000	75.57	.3156E+11	199.3	.6312E+08
8	NSOL	695 TEMP	s06i000	75.58	.3156E+11	199.4	.6312E+08
9	NSOL	706 TEMP	h06i000	76.63	.3156E+11	215.4	.3156E+08
10	NSOL	702 TEMP	c06i000	77.07	.3156E+11	221.6	.3156E+08
11	NSOL	699 TEMP	h06o000	76.85	.3156E+11	218.2	.3156E+08
12	NSOL	694 TEMP	s06o000	75.80	.3156E+11	201.7	.6312E+08
13	NSOL	814 TEMP	t13i000	75.79	.3156E+11	201.7	.6312E+08
14	NSOL	1051 TEMP	s13i000	75.79	.3156E+11	201.7	.6312E+08
15	NSOL	1062 TEMP	h13i000	76.24	.3156E+11	206.4	.3156E+08
16	NSOL	1058 TEMP	c13i000	76.17	.3156E+11	203.0	.6312E+08
17	NSOL	1055 TEMP	h13o000	75.65	.3156E+11	193.0	.6312E+08
18	NSOL	1050 TEMP	s13o000	74.03	.3156E+11	162.8	.9467E+08
19	NSOL	1170 TEMP	t13o000	74.02	.3156E+11	162.7	.9467E+08
20	NSOL	4304 TEMP	i13i000	28.07	.1000E-05	121.1	.2525E+09
21	NSOL	4240 TEMP	i13o000	27.38	.1000E-05	120.4	.2525E+09
22	NSOL	4487 TEMP	o13o000	26.14	.1000E-05	119.4	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:39:59 JUN 14, 1995 CP= 73175.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i000	6 TEMP h01o000	1 TEMP s01o000	346 TEMP t01o000	3820 TEMP ts1o000	858 TEMP t06i000
.10000E-05	163.606	158.575	131.455	131.360	131.360	131.367
.20000E-05	196.752	192.246	168.109	168.017	168.017	168.024
.31558E+07	196.752	192.246	168.109	168.018	168.017	168.025
.63116E+07	216.573	212.448	190.118	190.030	190.029	190.036
.94673E+07	219.852	215.781	193.751	193.663	193.663	193.670
.12623E+08	221.363	217.334	195.534	195.446	195.446	195.453
.15779E+08	222.320	218.321	196.692	196.605	196.604	196.611
.18935E+08	222.955	218.981	197.498	197.411	197.411	197.417
.22090E+08	223.379	219.429	198.073	197.987	197.987	197.993
.25246E+08	223.669	219.739	198.501	198.415	198.414	198.421
.28402E+08	223.861	219.950	198.820	198.735	198.734	198.741
.31558E+08	223.975	220.083	199.054	198.969	198.969	198.975
.63115E+08	224.032	220.156	199.223	199.139	199.138	199.145
.94673E+08	223.359	219.615	199.415	199.334	199.333	199.340
.12623E+09	221.648	218.005	198.366	198.287	198.287	198.293
.15779E+09	219.770	216.211	197.032	196.955	196.954	196.960
.18935E+09	218.089	214.597	195.790	195.715	195.714	195.720
.22090E+09	215.800	212.386	194.009	193.936	193.935	193.941
.25246E+09	214.004	210.650	192.609	192.537	192.537	192.543
.28402E+09	212.346	209.051	191.335	191.265	191.265	191.271
.31558E+09	210.182	206.936	189.496	189.427	189.427	189.432
.63115E+09	208.525	205.318	188.103	188.035	188.035	188.040
.94673E+09	191.731	188.951	174.099	174.043	174.042	174.047
.12623E+10	177.549	175.110	162.105	162.057	162.057	162.060
.15779E+10	165.075	162.905	151.357	151.316	151.316	151.319
.18935E+10	154.544	152.611	142.345	142.310	142.309	142.312
.22090E+10	145.930	144.196	135.010	134.979	134.979	134.981
.25246E+10	138.748	137.184	128.906	128.879	128.879	128.881
.28402E+10	132.366	130.943	123.420	123.395	123.395	123.397
.31558E+10	127.368	126.060	119.152	119.130	119.130	119.131
.63115E+10	122.988	121.785	115.431	115.411	115.411	115.412
.94673E+10	102.215	101.483	97.6308	97.6188	97.6187	97.6196
.12623E+11	94.5930	94.0203	91.0107	91.0015	91.0014	91.0021
.15779E+11	90.2430	89.7617	87.2339	87.2263	87.2262	87.2268
.18935E+11	87.1822	86.7630	84.5623	84.5557	84.5556	84.5561
.22090E+11	84.4459	84.0756	82.1322	82.1264	82.1263	82.1267
.25246E+11	82.2075	81.8745	80.1281	80.1229	80.1229	80.1233
.28402E+11	80.2442	79.9439	78.3690	78.3643	78.3643	78.3646
.31558E+11	78.5719	78.2978	76.8607	76.8564	76.8564	76.8567
	77.1532	76.9010	75.5783	75.5744	75.5744	75.5747

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:39:59 JUN 14, 1995 CP= 73175.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	695 TEMP s06i000	706 TEMP h06i000	702 TEMP c06i000	699 TEMP h06o000	694 TEMP s06o000	814 TEMP t13i000
.10000E-05	131.453	152.547	160.772	156.431	134.889	134.828

.20000E-05	168.107	186.683	193.869	189.909	170.779	170.719
31.558	168.107	186.683	193.869	189.909	170.779	170.719
.31558E+07	190.116	207.384	214.082	210.428	192.788	192.729
.63116E+07	193.749	210.771	217.367	213.751	196.340	196.281
.94673E+07	195.531	212.366	218.887	215.302	198.075	198.016
.12623E+08	196.689	213.388	219.854	216.294	199.198	199.140
.15779E+08	197.495	214.078	220.500	216.960	199.978	199.920
.18935E+08	198.071	214.551	220.934	217.413	200.531	200.474
.22090E+08	198.498	214.886	221.234	217.730	200.940	200.883
.25246E+08	198.818	215.121	221.436	217.949	201.243	201.187
.28402E+08	199.052	215.275	221.560	218.089	201.463	201.407
.31558E+08	199.221	215.369	221.626	218.170	201.620	201.563
.63115E+08	199.413	214.994	221.040	217.700	201.728	201.674
.94673E+08	198.364	213.516	219.403	216.157	200.628	200.575
.12623E+09	197.030	211.832	217.590	214.421	199.256	199.205
.15779E+09	195.788	210.307	215.961	212.856	197.984	197.934
.18935E+09	194.007	208.200	213.737	210.705	196.174	196.125
.22090E+09	192.607	206.546	211.990	209.015	194.750	194.703
.25246E+09	191.334	205.024	210.379	207.459	193.453	193.406
.28402E+09	189.494	202.975	208.256	205.383	191.595	191.550
.31558E+09	188.101	201.411	206.631	203.796	190.187	190.142
.63115E+09	174.098	185.617	190.178	187.746	176.008	175.970
.94673E+09	162.104	172.225	176.259	174.141	163.852	163.820
.12623E+10	151.357	160.368	163.978	162.105	152.954	152.927
.15779E+10	142.345	150.368	153.602	151.940	143.798	143.774
.18935E+10	135.010	142.200	145.112	143.627	136.339	136.318
.22090E+10	128.906	135.395	138.031	136.697	130.126	130.108
.25246E+10	123.420	129.325	131.731	130.520	124.546	124.529
.28402E+10	119.152	124.580	126.797	125.687	120.199	120.184
.31558E+10	115.431	120.429	122.474	121.455	116.406	116.392
.63115E+10	97.6307	100.674	101.932	101.317	98.2481	98.2403
.94673E+10	91.0106	93.3911	94.3784	93.8981	91.4982	91.4922
.12623E+11	87.2339	89.2348	90.0660	89.6626	87.6452	87.6402
.15779E+11	84.5623	86.3051	87.0297	86.6785	84.9213	84.9170
.18935E+11	82.1322	83.6715	84.3119	84.0017	82.4490	82.4452
.22090E+11	80.1281	81.5119	82.0879	81.8091	80.4130	80.4096
.25246E+11	78.3690	79.6173	80.1373	79.8858	78.6262	78.6232
.28402E+11	76.8607	78.0002	78.4751	78.2457	77.0959	77.0931
.31558E+11	75.5784	76.6275	77.0651	76.8540	75.7955	75.7930

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:39:59 JUN 14, 1995 CP= 73175.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1051 TEMP s13i000	1062 TEMP h13i000	1058 TEMP c13i000	1055 TEMP h13o000	1050 TEMP s13o000	1170 TEMP t13o000
.10000E-05	134.839	142.921	140.701	129.268	92.4332	92.2886
.20000E-05	170.727	176.985	173.995	162.890	128.175	128.023
31.558	170.727	176.984	173.995	162.890	128.175	128.024
.31558E+07	192.735	198.076	194.781	184.009	150.945	150.792
.63116E+07	196.287	201.475	198.122	187.395	154.591	154.438
.94673E+07	198.022	203.102	199.727	189.061	156.508	156.355
.12623E+08	199.145	204.159	200.777	190.160	157.806	157.653
.15779E+08	199.925	204.885	201.503	190.933	158.759	158.607
.18935E+08	200.479	205.394	202.015	191.490	159.483	159.331
.22090E+08	200.888	205.765	202.390	191.910	160.060	159.909
.25246E+08	201.191	206.035	202.666	192.228	160.529	160.378
.28402E+08	201.411	206.225	202.864	192.468	160.913	160.762
.31558E+08	201.568	206.354	203.002	192.647	161.230	161.081
.63115E+08	201.678	206.279	203.019	193.004	162.708	162.563
.94673E+08	200.579	205.062	201.899	192.171	162.792	162.651
.12623E+09	199.209	203.603	200.529	191.048	162.439	162.302

.15779E+09	197.938	202.264	199.265	189.986	162.004	161.870
.18935E+09	196.130	200.380	197.475	188.436	161.188	161.058
.22090E+09	194.707	198.898	196.067	187.214	160.537	160.411
.25246E+09	193.411	197.542	194.781	186.106	159.975	159.851
.28402E+09	191.554	195.646	192.957	184.446	158.802	158.681
.31558E+09	190.146	194.205	191.572	183.192	157.939	157.820
.63115E+09	175.975	179.661	177.582	170.520	149.207	149.110
.94673E+09	163.825	167.212	165.545	159.490	141.188	141.107
.12623E+10	152.931	156.058	154.696	149.418	133.478	133.408
.15779E+10	143.778	146.633	145.502	140.889	126.950	126.890
.18935E+10	136.322	138.932	137.979	133.904	121.571	121.519
.22090E+10	130.112	132.508	131.694	128.061	117.052	117.006
.25246E+10	124.532	126.746	126.044	122.775	112.852	112.812
.28402E+10	120.187	122.247	121.630	118.651	109.600	109.564
.31558E+10	116.395	118.311	117.766	115.045	106.770	106.737
.63115E+10	98.2421	99.4654	99.1969	97.5998	92.7302	92.7116
.94673E+10	91.4937	92.4660	92.2734	91.0402	87.2730	87.2589
.12623E+11	87.6415	88.4668	88.3135	87.2848	84.1383	84.1266
.15779E+11	84.9181	85.6411	85.5121	84.6203	81.8903	81.8802
.18935E+11	82.4461	83.0887	82.9790	82.1950	79.7927	79.7839
.22090E+11	80.4105	80.9913	80.8960	80.1941	78.0420	78.0341
.25246E+11	78.6240	79.1504	79.0671	78.4362	76.5002	76.4932
.28402E+11	77.0938	77.5764	77.5025	76.9286	75.1661	75.1598
.31558E+11	75.7937	76.2396	76.1734	75.6465	74.0275	74.0217

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:39:59 JUN 14, 1995 CP= 73175.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4304 TEMP	4240 TEMP	4487 TEMP
	i13i000	i13o000	o13o000
.10000E-05	28.0709	27.3814	26.1400
.20000E-05	70.9728	70.1845	68.8639
31.558	70.9728	70.1845	68.8639
.31558E+07	99.0829	98.2590	97.0071
.63116E+07	103.534	102.707	101.458
.94673E+07	106.062	105.236	103.995
.12623E+08	107.837	107.013	105.779
.15779E+08	109.201	108.379	107.152
.18935E+08	110.288	109.468	108.247
.22090E+08	111.200	110.383	109.169
.25246E+08	111.978	111.164	109.955
.28402E+08	112.653	111.842	110.639
.31558E+08	113.246	112.438	111.241
.63115E+08	116.826	116.044	114.894
.94673E+08	118.519	117.762	116.652
.12623E+09	119.473	118.738	117.662
.15779E+09	120.084	119.367	118.319
.18935E+09	120.464	119.769	118.753
.22090E+09	120.739	120.061	119.070
.25246E+09	121.063	120.401	119.434
.28402E+09	120.631	119.984	119.038
.31558E+09	120.369	119.733	118.804
.63115E+09	117.660	117.143	116.382
.94673E+09	114.172	113.743	113.107
.12623E+10	109.925	109.563	109.020
.15779E+10	106.337	106.028	105.563
.18935E+10	103.328	103.061	102.657
.22090E+10	100.767	100.534	100.178
.25246E+10	98.1707	97.9638	97.6490
.28402E+10	96.2126	96.0266	95.7441
.31558E+10	94.5349	94.3672	94.1128
.63115E+10	85.5349	85.4433	85.3037

.94673E+10	81.6983	81.6294	81.5242
.12623E+11	79.4786	79.4220	79.3355
.15779E+11	77.8423	77.7937	77.7193
.18935E+11	76.2279	76.1856	76.1206
.22090E+11	74.8463	74.8087	74.7509
.25246E+11	73.6240	73.5905	73.5389
.28402E+11	72.5466	72.5163	72.4697
.31558E+11	71.6205	71.5929	71.5504

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i045

*** WARNING *** CP= 73176.010 TIME= 21:40:00
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 84 ITEM= TEMP COMP= NAME= h01o045

VARIABLE 4 IS AT NODE 23 ITEM= TEMP COMP= NAME= s01o045

VARIABLE 5 IS AT NODE 348 ITEM= TEMP COMP= NAME= t01o045

VARIABLE 6 IS AT NODE 3831 ITEM= TEMP COMP= NAME= ts1o045

VARIABLE 7 IS AT NODE 2465 ITEM= TEMP COMP= NAME= t08i045

VARIABLE 8 IS AT NODE 2240 ITEM= TEMP COMP= NAME= s08i045

VARIABLE 9 IS AT NODE 2331 ITEM= TEMP COMP= NAME= h08i045

VARIABLE 10 IS AT NODE 2379 ITEM= TEMP COMP= NAME= c08i045

VARIABLE 11 IS AT NODE 2427 ITEM= TEMP COMP= NAME= h08o045

VARIABLE 12 IS AT NODE 2268 ITEM= TEMP COMP= NAME= s08o045

VARIABLE 13 IS AT NODE 2494 ITEM= TEMP COMP= NAME= g08i045

VARIABLE 14 IS AT NODE 3689 ITEM= TEMP COMP= NAME= g08o045

VARIABLE 15 IS AT NODE 4332 ITEM= TEMP COMP= NAME= i08i045

VARIABLE 16 IS AT NODE 4272 ITEM= TEMP COMP= NAME= i08o045

VARIABLE 17 IS AT NODE 4521 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 11 and 12

VARIABLE 18 IS AT NODE 3390 ITEM= TEMP COMP= NAME= c11i045

VARIABLE 19 IS AT NODE 2716 ITEM= TEMP COMP= NAME= c12i045

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES
 VARI TYPE IDENTIFIERS NAME MINIMUM AT TIME MAXIMUM AT TIME

2 NSOL	9 TEMP	c01i045	77.15	.3156E+11	224.0	.3156E+08
3 NSOL	84 TEMP	h01o045	76.40	.3156E+11	212.5	.3156E+08
4 NSOL	23 TEMP	s01o045	75.52	.3156E+11	198.1	.6312E+08
5 NSOL	348 TEMP	t01o045	75.47	.3156E+11	197.2	.6312E+08
6 NSOL	3831 TEMP	ts1o045	75.47	.3156E+11	197.2	.6312E+08
7 NSOL	2465 TEMP	t08i045	75.47	.3156E+11	197.1	.6312E+08
8 NSOL	2240 TEMP	s08i045	75.42	.3156E+11	196.1	.6312E+08
9 NSOL	2331 TEMP	h08i045	76.21	.3156E+11	208.1	.3156E+08
10 NSOL	2379 TEMP	c08i045	76.98	.3156E+11	218.8	.3156E+08
11 NSOL	2427 TEMP	h08o045	76.13	.3156E+11	203.2	.3156E+08
12 NSOL	2268 TEMP	s08o045	74.69	.3156E+11	176.4	.6312E+08

13	NSOL	2494	TEMP	g08i045	74.62	.3156E+11	174.8	.6312E+08
14	NSOL	3689	TEMP	g08o045	74.48	.3156E+11	171.8	.6312E+08
15	NSOL	4332	TEMP	i08i045	27.78	.1000E-05	120.0	.2525E+09
16	NSOL	4272	TEMP	i08o045	26.97	.1000E-05	119.1	.2525E+09
17	NSOL	4521	TEMP	o08o045	26.14	.1000E-05	118.3	.2525E+09
18	NSOL	3390	TEMP	c11i045	75.58	.3156E+11	191.5	.6312E+08
19	NSOL	2716	TEMP	c12i045	75.63	.3156E+11	192.2	.6312E+08
20	NSOL	4304	TEMP	i13i000	28.07	.1000E-05	121.1	.2525E+09
21	NSOL	4240	TEMP	i13o000	27.38	.1000E-05	120.4	.2525E+09
22	NSOL	4487	TEMP	o13o000	26.14	.1000E-05	119.4	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:02 JUN 14, 1995 CP= 73178.690
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i045	84 TEMP h01o045	23 TEMP s01o045	348 TEMP t01o045	3831 TEMP ts1o045	2465 TEMP t08i045
.10000E-05	163.606	148.655	130.030	128.934	128.907	128.885
.20000E-05	196.752	183.425	166.711	165.649	165.622	165.601
31.558	196.752	183.425	166.711	165.649	165.622	165.601
.31558E+07	216.573	204.256	188.701	187.702	187.677	187.657
.63116E+07	219.852	207.701	192.339	191.346	191.321	191.301
.94673E+07	221.363	209.337	194.128	193.141	193.117	193.097
.12623E+08	222.320	210.386	195.293	194.311	194.287	194.267
.15779E+08	222.955	211.099	196.105	195.129	195.104	195.084
.18935E+08	223.379	211.592	196.687	195.715	195.691	195.671
.22090E+08	223.669	211.945	197.120	196.153	196.129	196.110
.25246E+08	223.861	212.195	197.446	196.483	196.459	196.440
.28402E+08	223.975	212.364	197.686	196.727	196.703	196.684
.31558E+08	224.032	212.472	197.861	196.906	196.883	196.863
.63115E+08	223.359	212.194	198.100	197.181	197.158	197.139
.94673E+08	221.648	210.785	197.092	196.201	196.179	196.161
.12623E+09	219.770	209.156	195.792	194.926	194.904	194.887
.15779E+09	218.089	207.675	194.578	193.733	193.711	193.694
.18935E+09	215.800	205.617	192.831	192.009	191.988	191.972
.22090E+09	214.004	204.001	191.457	190.653	190.633	190.617
.25246E+09	212.346	202.517	190.208	189.422	189.403	189.387
.28402E+09	210.182	200.499	188.392	187.622	187.603	187.587
.31558E+09	208.525	198.960	187.018	186.260	186.242	186.226
.63115E+09	191.731	183.448	173.196	172.566	172.551	172.538
.94673E+09	177.549	170.280	161.341	160.808	160.795	160.785
.12623E+10	165.075	158.608	150.702	150.243	150.232	150.223
.15779E+10	154.544	148.780	141.776	141.379	141.370	141.362
.18935E+10	145.930	140.762	134.510	134.162	134.153	134.147
.22090E+10	138.748	134.086	128.463	128.154	128.146	128.140
.25246E+10	132.366	128.124	123.022	122.746	122.739	122.733
.28402E+10	127.368	123.470	118.791	118.540	118.534	118.529
.31558E+10	122.988	119.400	115.102	114.874	114.868	114.864
.63115E+10	102.215	100.031	97.4401	97.3091	97.3060	97.3034
.94673E+10	94.5930	92.8838	90.8636	90.7630	90.7606	90.7586
.12623E+11	90.2430	88.8065	87.1114	87.0277	87.0257	87.0241
.15779E+11	87.1822	85.9311	84.4561	84.3837	84.3820	84.3806
.18935E+11	84.4459	83.3406	82.0390	81.9754	81.9739	81.9726
.22090E+11	82.2075	81.2139	80.0449	79.9880	79.9867	79.9855
.25246E+11	80.2442	79.3480	78.2941	78.2431	78.2419	78.2409
.28402E+11	78.5719	77.7538	76.7926	76.7463	76.7452	76.7443
.31558E+11	77.1532	76.4002	75.5158	75.4734	75.4723	75.4715

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:02 JUN 14, 1995 CP= 73178.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2240 TEMP s08i045	2331 TEMP h08i045	2379 TEMP c08i045	2427 TEMP h08o045	2268 TEMP s08o045	2494 TEMP g08i045
.10000E-05	127.615	143.842	159.152	141.930	110.119	108.369
.20000E-05	164.404	178.611	191.549	174.933	144.746	143.030
31.558	164.404	178.610	191.548	174.933	144.746	143.030
.31558E+07	186.545	199.672	211.326	195.141	166.026	164.334
.63116E+07	190.198	203.132	214.553	198.449	169.523	167.836
.94673E+07	192.003	204.790	216.048	200.038	171.305	169.626
.12623E+08	193.180	205.859	217.004	201.070	172.499	170.827
.15779E+08	194.005	206.592	217.644	201.781	173.358	171.693
.18935E+08	194.597	207.105	218.077	202.281	173.996	172.338
.22090E+08	195.041	207.476	218.378	202.647	174.493	172.842
.25246E+08	195.376	207.744	218.582	202.914	174.886	173.241
.28402E+08	195.626	207.931	218.711	203.103	175.196	173.559
.31558E+08	195.810	208.057	218.781	203.233	175.444	173.814
.63115E+08	196.124	207.928	218.256	203.197	176.367	174.792
.94673E+08	195.178	206.646	216.690	202.040	176.002	174.475
.12623E+09	193.930	205.126	214.945	200.644	175.274	173.789
.15779E+09	192.759	203.735	213.374	199.359	174.537	173.086
.18935E+09	191.061	201.784	211.223	197.547	173.367	171.956
.22090E+09	189.726	200.251	209.532	196.122	172.442	171.063
.25246E+09	188.514	198.847	207.975	194.819	171.618	170.269
.28402E+09	186.731	196.902	205.909	192.987	170.219	168.897
.31558E+09	185.383	195.422	204.328	191.596	169.174	167.875
.63115E+09	171.830	180.510	188.319	177.524	158.607	157.527
.94673E+09	160.181	167.802	174.737	165.436	149.202	148.287
.12623E+10	149.701	156.482	162.716	154.580	140.431	139.642
.15779E+10	140.906	146.936	152.540	145.386	133.006	132.323
.18935E+10	133.744	139.147	144.204	137.863	126.908	126.308
.22090E+10	127.782	132.656	137.245	131.577	121.795	121.262
.25246E+10	122.411	126.847	131.044	125.930	117.113	116.635
.28402E+10	118.236	122.312	126.186	121.517	113.474	113.040
.31558E+10	114.597	118.349	121.928	117.655	110.300	109.905
.63115E+10	97.1478	99.4298	101.644	99.1103	94.7758	94.5475
.94673E+10	90.6389	92.4237	94.1641	92.1993	88.8439	88.6684
.12623E+11	86.9245	88.4246	89.8913	88.2480	85.4449	85.2989
.15779E+11	84.2943	85.6009	86.8806	85.4537	83.0214	82.8950
.18935E+11	81.8969	83.0509	84.1831	82.9267	80.7864	80.6755
.22090E+11	79.9178	80.9551	81.9743	80.8480	78.9306	78.8315
.25246E+11	78.1800	79.1159	80.0365	79.0230	77.2982	77.2092
.28402E+11	76.6890	77.5432	78.3845	77.4614	75.8913	75.8104
.31558E+11	75.4208	76.2074	76.9827	76.1346	74.6922	74.6180

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:02 JUN 14, 1995 CP= 73178.710
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3689 TEMP g08o045	4332 TEMP i08i045	4272 TEMP i08o045	4521 TEMP o08o045	3390 TEMP c11i045	2716 TEMP c12i045
.10000E-05	105.008	27.7822	26.9670	26.1400	129.542	129.717
.20000E-05	139.720	70.7802	69.8128	68.8425	162.488	162.705
31.558	139.720	70.7802	69.8128	68.8425	162.488	162.704
.31558E+07	161.085	97.7752	96.7312	95.6848	182.587	183.359
.63116E+07	164.598	102.222	101.172	100.117	185.914	186.698

.94673E+07	166.405	104.756	103.706	102.653	187.547	188.333
.12623E+08	167.620	106.539	105.490	104.441	188.631	189.417
.15779E+08	168.501	107.908	106.862	105.815	189.392	190.178
.18935E+08	169.160	109.001	107.957	106.915	189.942	190.727
.22090E+08	169.678	109.918	108.877	107.838	190.357	191.141
.25246E+08	170.091	110.702	109.664	108.629	190.673	191.455
.28402E+08	170.422	111.381	110.347	109.315	190.910	191.690
.31558E+08	170.689	111.980	110.949	109.921	191.087	191.866
.63115E+08	171.776	115.596	114.598	113.605	191.452	192.217
.94673E+08	171.552	117.317	116.350	115.389	190.640	191.392
.12623E+09	170.945	118.296	117.356	116.424	189.542	190.281
.15779E+09	170.306	118.929	118.011	117.102	188.503	189.231
.18935E+09	169.254	119.329	118.439	117.557	186.983	187.698
.22090E+09	168.420	119.622	118.754	117.893	185.785	186.490
.25246E+09	167.682	119.962	119.114	118.273	184.699	185.394
.28402E+09	166.364	119.555	118.727	117.906	183.072	183.753
.31558E+09	165.383	119.312	118.499	117.694	181.844	182.513
.63115E+09	155.451	116.754	116.093	115.436	169.389	169.964
.94673E+09	146.526	113.378	112.830	112.284	158.522	159.026
.12623E+10	138.125	109.230	108.769	108.307	148.596	149.037
.15779E+10	131.007	105.716	105.324	104.930	140.185	140.577
.18935E+10	125.152	102.766	102.428	102.087	133.290	133.642
.22090E+10	120.237	100.253	99.9570	99.6582	127.517	127.839
.25246E+10	115.717	97.7011	97.4396	97.1760	122.294	122.586
.28402E+10	112.208	95.7767	95.5418	95.3055	118.216	118.487
.31558E+10	109.147	94.1271	93.9154	93.7024	114.649	114.902
.63115E+10	94.1121	85.2771	85.1619	85.0458	97.3730	97.5313
.94673E+10	88.3349	81.4925	81.4061	81.3189	90.8670	90.9927
.12623E+11	85.0221	79.3041	79.2332	79.1617	87.1417	87.2478
.15779E+11	82.6556	77.6894	77.6285	77.5670	84.4967	84.5895
.18935E+11	80.4659	76.0943	76.0415	75.9880	82.0888	82.1698
.22090E+11	78.6443	74.7266	74.6798	74.6323	80.1005	80.1730
.25246E+11	77.0414	73.5160	73.4742	73.4320	78.3529	78.4183
.28402E+11	75.6580	72.4476	72.4099	72.3717	76.8534	76.9131
.31558E+11	74.4784	71.5282	71.4938	71.4590	75.5772	75.6328

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 73178.880 TIME= 21:40:03
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 88 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 30 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 369 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 6 IS AT NODE 3936 ITEM= TEMP COMP= NAME= ts1o090

VARIABLE 7 IS AT NODE 412 ITEM= TEMP COMP= NAME= t02i090

VARIABLE 8 IS AT NODE 129 ITEM= TEMP COMP= NAME= s02i090

VARIABLE 9 IS AT NODE 209 ITEM= TEMP COMP= NAME= h02i090

VARIABLE 10 IS AT NODE 261 ITEM= TEMP COMP= NAME= c02i090

VARIABLE 11 IS AT NODE 313 ITEM= TEMP COMP= NAME= h02o090

VARIABLE 12 IS AT NODE 157 ITEM= TEMP COMP= NAME= s02o090

VARIABLE 13 IS AT NODE 469 ITEM= TEMP COMP= NAME= t02i090

VARIABLE 14 IS AT NODE 1236 ITEM= TEMP COMP= NAME= s04i090

VARIABLE 15 IS AT NODE 1316 ITEM= TEMP COMP= NAME= h04i090
 VARIABLE 16 IS AT NODE 1368 ITEM= TEMP COMP= NAME= c04i090
 VARIABLE 17 IS AT NODE 1407 ITEM= TEMP COMP= NAME= h04o090
 VARIABLE 18 IS AT NODE 1264 ITEM= TEMP COMP= NAME= s04o090
 VARIABLE 19 IS AT NODE 1518 ITEM= TEMP COMP= NAME= t04o090
 VARIABLE 20 IS AT NODE 4057 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 21 IS AT NODE 3993 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 22 IS AT NODE 4484 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i090	77.15	.3156E+11	224.0	.3156E+08
3	NSOL	88 TEMP	h01o090	76.71	.3156E+11	217.5	.3156E+08
4	NSOL	30 TEMP	s01o090	75.66	.3156E+11	201.2	.6312E+08
5	NSOL	369 TEMP	t01o090	75.65	.3156E+11	201.1	.6312E+08
6	NSOL	3936 TEMP	ts1o090	75.65	.3156E+11	201.1	.6312E+08
7	NSOL	412 TEMP	t02i090	75.65	.3156E+11	201.1	.6312E+08
8	NSOL	129 TEMP	s02i090	75.66	.3156E+11	201.2	.6312E+08
9	NSOL	209 TEMP	h02i090	76.65	.3156E+11	216.0	.3156E+08
10	NSOL	261 TEMP	c02i090	77.04	.3156E+11	221.5	.3156E+08
11	NSOL	313 TEMP	h02o090	76.63	.3156E+11	214.7	.3156E+08
12	NSOL	157 TEMP	s02o090	75.72	.3156E+11	200.6	.6312E+08
13	NSOL	469 TEMP	t02i090	75.72	.3156E+11	200.6	.6312E+08
14	NSOL	1236 TEMP	s04i090	75.72	.3156E+11	200.6	.6312E+08
15	NSOL	1316 TEMP	h04i090	76.14	.3156E+11	204.8	.3156E+08
16	NSOL	1368 TEMP	c04i090	76.02	.3156E+11	200.7	.6312E+08
17	NSOL	1407 TEMP	h04o090	75.44	.3156E+11	189.5	.6312E+08
18	NSOL	1264 TEMP	s04o090	73.66	.3156E+11	155.7	.9467E+08
19	NSOL	1518 TEMP	t04o090	73.65	.3156E+11	155.6	.9467E+08
20	NSOL	4057 TEMP	i04i090	28.51	.1000E-05	119.4	.2525E+09
21	NSOL	3993 TEMP	i04o090	27.57	.1000E-05	118.4	.2525E+09
22	NSOL	4484 TEMP	o04o090	26.14	.1000E-05	117.1	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:06 JUN 14, 1995 CP= 73181.990
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i090	88 TEMP h01o090	30 TEMP s01o090	369 TEMP t01o090	3936 TEMP ts1o090	412 TEMP t02i090
.10000E-05	163.606	155.115	133.735	133.601	133.596	133.600
.20000E-05	196.752	189.206	170.306	170.177	170.172	170.176
31.558	196.752	189.206	170.306	170.177	170.172	170.177
.31558E+07	216.573	209.572	192.048	191.923	191.918	191.923
.63116E+07	219.852	212.945	195.665	195.542	195.537	195.541
.94673E+07	221.363	214.529	197.436	197.313	197.308	197.312
.12623E+08	222.320	215.538	198.582	198.460	198.455	198.459
.15779E+08	222.955	216.217	199.378	199.256	199.251	199.255
.18935E+08	223.379	216.680	199.944	199.823	199.818	199.822
.22090E+08	223.669	217.005	200.362	200.241	200.237	200.241
.25246E+08	223.861	217.230	200.673	200.553	200.548	200.552
.28402E+08	223.975	217.376	200.898	200.779	200.774	200.778
.31558E+08	224.032	217.461	201.059	200.940	200.935	200.939

.63115E+08	223.359	217.010	201.182	201.067	201.063	201.067
.94673E+08	221.648	215.468	200.075	199.964	199.959	199.963
.12623E+09	219.770	213.730	198.692	198.583	198.579	198.583
.15779E+09	218.089	212.161	197.410	197.304	197.300	197.304
.18935E+09	215.800	210.001	195.582	195.479	195.474	195.478
.22090E+09	214.004	208.305	194.145	194.045	194.041	194.044
.25246E+09	212.346	206.745	192.837	192.739	192.735	192.738
.28402E+09	210.182	204.663	190.968	190.871	190.867	190.870
.31558E+09	208.525	203.072	189.551	189.456	189.452	189.455
.63115E+09	191.731	186.994	175.301	175.221	175.218	175.221
.94673E+09	177.549	173.382	163.120	163.052	163.049	163.051
.12623E+10	165.075	161.361	152.231	152.172	152.170	152.172
.15779E+10	154.544	151.229	143.100	143.049	143.047	143.049
.18935E+10	145.930	142.953	135.672	135.627	135.625	135.627
.22090E+10	138.748	136.059	129.491	129.451	129.450	129.451
.25246E+10	132.366	129.917	123.943	123.907	123.905	123.907
.28402E+10	127.368	125.116	119.626	119.593	119.591	119.593
.31558E+10	122.988	120.913	115.860	115.830	115.829	115.830
.63115E+10	102.215	100.948	97.8747	97.8573	97.8567	97.8572
.94673E+10	94.5930	93.6000	91.1972	91.1838	91.1833	91.1837
.12623E+11	90.2430	89.4079	87.3889	87.3777	87.3773	87.3777
.15779E+11	87.1822	86.4546	84.6961	84.6864	84.6861	84.6864
.18935E+11	84.4459	83.8030	82.2500	82.2415	82.2412	82.2415
.22090E+11	82.2075	81.6294	80.2334	80.2258	80.2255	80.2257
.25246E+11	80.2442	79.7226	78.4635	78.4567	78.4564	78.4567
.28402E+11	78.5719	78.0957	76.9463	76.9401	76.9399	76.9401
.31558E+11	77.1532	76.7147	75.6568	75.6511	75.6509	75.6511

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:06 JUN 14, 1995 CP= 73182.000
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	129 TEMP s02i090	209 TEMP h02i090	261 TEMP c02i090	313 TEMP h02o090	157 TEMP s02o090	469 TEMP t02i090
.10000E-05	133.727	153.667	161.135	152.904	134.622	134.559
.20000E-05	170.297	187.748	194.187	186.692	170.441	170.380
31.558	170.297	187.748	194.187	186.691	170.441	170.380
.31558E+07	192.039	208.099	213.939	206.841	191.679	191.618
.63116E+07	195.656	211.474	217.212	210.187	195.216	195.156
.94673E+07	197.426	213.063	218.728	211.765	196.950	196.889
.12623E+08	198.573	214.078	219.694	212.776	198.073	198.013
.15779E+08	199.368	214.762	220.337	213.460	198.853	198.794
.18935E+08	199.934	215.232	220.770	213.930	199.410	199.350
.22090E+08	200.353	215.563	221.069	214.262	199.821	199.761
.25246E+08	200.664	215.794	221.271	214.496	200.127	200.068
.28402E+08	200.889	215.944	221.395	214.649	200.349	200.290
.31558E+08	201.050	216.035	221.460	214.743	200.508	200.449
.63115E+08	201.173	215.631	220.870	214.378	200.638	200.582
.94673E+08	200.066	214.129	219.230	212.917	199.559	199.504
.12623E+09	198.683	212.425	217.416	211.251	198.206	198.152
.15779E+09	197.402	210.885	215.788	209.743	196.951	196.899
.18935E+09	195.574	208.759	213.562	207.657	195.159	195.108
.22090E+09	194.138	207.090	211.814	206.019	193.750	193.701
.25246E+09	192.830	205.555	210.203	204.512	192.467	192.419
.28402E+09	190.960	203.497	208.084	202.485	190.631	190.583
.31558E+09	189.544	201.925	206.462	200.937	189.239	189.192
.63115E+09	175.296	186.040	190.024	185.279	175.195	175.156
.94673E+09	163.115	172.577	176.117	171.980	163.144	163.112
.12623E+10	152.227	160.670	163.852	160.192	152.338	152.310
.15779E+10	143.097	150.628	153.485	150.236	143.253	143.228
.18935E+10	135.669	142.425	145.003	142.099	135.850	135.828
.22090E+10	129.489	135.591	137.928	135.315	129.682	129.663

.25246E+10	123.941	129.498	131.634	129.263	124.142	124.125
.28402E+10	119.624	124.735	126.705	124.530	119.826	119.811
.31558E+10	115.859	120.567	122.386	120.386	116.059	116.045
.63115E+10	97.8737	100.748	101.871	100.661	98.0326	98.0245
.94673E+10	91.1965	93.4462	94.3285	93.3833	91.3276	91.3214
.12623E+11	87.3883	89.2799	90.0231	89.2291	87.5012	87.4961
.15779E+11	84.6956	86.3437	86.9918	86.3005	84.7955	84.7910
.18935E+11	82.2495	83.7057	84.2791	83.6688	82.3393	82.3354
.22090E+11	80.2330	81.5425	82.0585	81.5101	80.3150	80.3115
.25246E+11	78.4631	79.6446	80.1107	79.6161	78.5379	78.5347
.28402E+11	76.9460	78.0248	78.4506	77.9993	77.0151	77.0122
.31558E+11	75.6565	76.6497	77.0419	76.6266	75.7204	75.7178

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:06 JUN 14, 1995 CP= 73182.020
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1236 TEMP s04i090	1316 TEMP h04i090	1368 TEMP c04i090	1407 TEMP h04o090	1264 TEMP s04o090	1518 TEMP t04o090
.10000E-05	134.569	142.334	139.453	127.009	86.6678	86.4865
.20000E-05	170.386	176.302	172.603	160.419	122.011	121.819
31.558	170.386	176.301	172.603	160.419	122.011	121.819
.31558E+07	191.621	196.518	192.374	180.393	143.309	143.112
.63116E+07	195.159	199.898	195.690	183.753	146.934	146.737
.94673E+07	196.892	201.523	197.294	185.419	148.865	148.669
.12623E+08	198.016	202.581	198.346	186.522	150.184	149.989
.15779E+08	198.796	203.309	199.073	187.300	151.159	150.963
.18935E+08	199.353	203.821	199.590	187.865	151.908	151.713
.22090E+08	199.764	204.195	199.971	188.293	152.509	152.315
.25246E+08	200.070	204.469	200.253	188.622	153.004	152.810
.28402E+08	200.292	204.662	200.456	188.870	153.412	153.219
.31558E+08	200.451	204.794	200.599	189.058	153.755	153.563
.63115E+08	200.584	204.751	200.669	189.501	155.453	155.267
.94673E+08	199.506	203.564	199.597	188.748	155.732	155.552
.12623E+09	198.155	202.132	198.272	187.696	155.551	155.375
.15779E+09	196.901	200.815	197.046	186.695	155.259	155.088
.18935E+09	195.110	198.957	195.301	185.215	154.610	154.444
.22090E+09	193.703	197.497	193.929	184.050	154.091	153.929
.25246E+09	192.421	196.162	192.676	182.995	153.653	153.494
.28402E+09	190.586	194.295	190.895	181.398	152.613	152.458
.31558E+09	189.195	192.877	189.544	180.194	151.855	151.703
.63115E+09	175.159	178.524	175.850	167.972	144.109	143.984
.94673E+09	163.115	166.221	164.041	157.284	136.841	136.736
.12623E+10	152.313	155.193	153.381	147.496	129.730	129.641
.15779E+10	143.231	145.867	144.342	139.203	123.689	123.612
.18935E+10	135.831	138.246	136.944	132.405	118.695	118.629
.22090E+10	129.666	131.886	130.760	126.714	114.487	114.429
.25246E+10	124.127	126.182	125.198	121.558	110.550	110.498
.28402E+10	119.813	121.726	120.852	117.536	107.503	107.456
.31558E+10	116.047	117.828	117.047	114.018	104.850	104.807
.63115E+10	98.0260	99.1672	98.7585	96.9826	91.6079	91.5840
.94673E+10	91.3226	92.2309	91.9298	90.5592	86.4067	86.3886
.12623E+11	87.4971	88.2687	88.0249	86.8819	83.4164	83.4014
.15779E+11	84.7919	85.4682	85.2607	84.2700	81.2647	81.2518
.18935E+11	82.3362	82.9379	82.7594	81.8890	79.2466	79.2353
.22090E+11	80.3122	80.8564	80.6998	79.9209	77.5550	77.5449
.25246E+11	78.5354	79.0290	78.8906	78.1907	76.0634	76.0544
.28402E+11	77.0128	77.4654	77.3415	76.7049	74.7690	74.7609
.31558E+11	75.7184	76.1366	76.0243	75.4399	73.6619	73.6545

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 21:40:06 JUN 14, 1995 CP= 73182.030
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4057 TEMP	3993 TEMP	4484 TEMP
	i04i090	i04o090	o04o090
.10000E-05	28.5086	27.5703	26.1400
.20000E-05	71.4671	70.3742	68.8212
31.558	71.4671	70.3742	68.8212
.31558E+07	97.1900	96.0107	94.3626
.63116E+07	101.617	100.432	98.7758
.94673E+07	104.146	102.960	101.311
.12623E+08	105.927	104.744	103.102
.15779E+08	107.293	106.111	104.478
.18935E+08	108.386	107.208	105.582
.22090E+08	109.301	108.127	106.508
.25246E+08	110.085	108.914	107.302
.28402E+08	110.763	109.596	107.992
.31558E+08	111.363	110.199	108.602
.63115E+08	114.982	113.855	112.317
.94673E+08	116.707	115.615	114.127
.12623E+09	117.691	116.630	115.185
.15779E+09	118.330	117.294	115.885
.18935E+09	118.734	117.729	116.361
.22090E+09	119.032	118.051	116.716
.25246E+09	119.376	118.417	117.113
.28402E+09	118.985	118.048	116.773
.31558E+09	118.754	117.836	116.583
.63115E+09	116.269	115.520	114.491
.94673E+09	112.947	112.325	111.462
.12623E+10	108.854	108.329	107.593
.15779E+10	105.376	104.929	104.297
.18935E+10	102.455	102.068	101.517
.22090E+10	99.9630	99.6243	99.1383
.25246E+10	97.4338	97.1341	96.7030
.28402E+10	95.5245	95.2551	94.8669
.31558E+10	93.8865	93.6433	93.2920
.63115E+10	85.1168	84.9837	84.7879
.94673E+10	81.3622	81.2621	81.1135
.12623E+11	79.1926	79.1104	78.9878
.15779E+11	77.5912	77.5205	77.4147
.18935E+11	76.0091	75.9476	75.8555
.22090E+11	74.6503	74.5958	74.5137
.25246E+11	73.4470	73.3984	73.3251
.28402E+11	72.3841	72.3402	72.2738
.31558E+11	71.4684	71.4283	71.3676

* Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 73182.190 TIME= 21:40:06
NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 91 ITEM= TEMP COMP= NAME= h01o135

VARIABLE 4 IS AT NODE 16 ITEM= TEMP COMP= NAME= s01o135

VARIABLE 5 IS AT NODE 362 ITEM= TEMP COMP= NAME= t01o135

VARIABLE 6 IS AT NODE 3770 ITEM= TEMP COMP= NAME= ts1o135

VARIABLE 7 IS AT NODE 1790 ITEM= TEMP COMP= NAME= t07i135
 VARIABLE 8 IS AT NODE 1565 ITEM= TEMP COMP= NAME= s07i135
 VARIABLE 9 IS AT NODE 1649 ITEM= TEMP COMP= NAME= h07i135
 VARIABLE 10 IS AT NODE 1705 ITEM= TEMP COMP= NAME= c07i135
 VARIABLE 11 IS AT NODE 1760 ITEM= TEMP COMP= NAME= h07o135
 VARIABLE 12 IS AT NODE 1580 ITEM= TEMP COMP= NAME= s07o135
 VARIABLE 13 IS AT NODE 1848 ITEM= TEMP COMP= NAME= g07i135
 VARIABLE 14 IS AT NODE 3603 ITEM= TEMP COMP= NAME= g07o135
 VARIABLE 15 IS AT NODE 4085 ITEM= TEMP COMP= NAME= i07i135
 VARIABLE 16 IS AT NODE 4025 ITEM= TEMP COMP= NAME= i07o135
 VARIABLE 17 IS AT NODE 4713 ITEM= TEMP COMP= NAME= o07o135
 Add centers of assemblies 9 and 10
 VARIABLE 18 IS AT NODE 3053 ITEM= TEMP COMP= NAME= c09i135
 VARIABLE 19 IS AT NODE 2042 ITEM= TEMP COMP= NAME= c10i135

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i135	77.15	.3156E+11	224.0	.3156E+08
3	NSOL	91 TEMP	h01o135	76.53	.3156E+11	214.6	.3156E+08
4	NSOL	16 TEMP	s01o135	75.49	.3156E+11	197.8	.6312E+08
5	NSOL	362 TEMP	t01o135	75.44	.3156E+11	196.8	.6312E+08
6	NSOL	3770 TEMP	ts1o135	75.44	.3156E+11	196.8	.6312E+08
7	NSOL	1790 TEMP	t07i135	75.44	.3156E+11	196.7	.6312E+08
8	NSOL	1565 TEMP	s07i135	75.38	.3156E+11	195.6	.6312E+08
9	NSOL	1649 TEMP	h07i135	76.15	.3156E+11	207.4	.3156E+08
10	NSOL	1705 TEMP	c07i135	76.92	.3156E+11	218.0	.3156E+08
11	NSOL	1760 TEMP	h07o135	76.23	.3156E+11	205.5	.3156E+08
12	NSOL	1580 TEMP	s07o135	74.59	.3156E+11	175.2	.6312E+08
13	NSOL	1848 TEMP	g07i135	74.51	.3156E+11	173.6	.6312E+08
14	NSOL	3603 TEMP	g07o135	74.37	.3156E+11	170.5	.6312E+08
15	NSOL	4085 TEMP	i07i135	27.78	.1000E-05	118.3	.2525E+09
16	NSOL	4025 TEMP	i07o135	26.97	.1000E-05	117.5	.2525E+09
17	NSOL	4713 TEMP	o07o135	26.14	.1000E-05	116.6	.2525E+09
18	NSOL	3053 TEMP	c09i135	75.51	.3156E+11	190.7	.6312E+08
19	NSOL	2042 TEMP	c10i135	75.50	.3156E+11	190.7	.6312E+08
20	NSOL	4057 TEMP	i04i090	28.51	.1000E-05	119.4	.2525E+09
21	NSOL	3993 TEMP	i04o090	27.57	.1000E-05	118.4	.2525E+09
22	NSOL	4484 TEMP	o04o090	26.14	.1000E-05	117.1	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:09 JUN 14, 1995 CP= 73184.850
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i135	91 TEMP h01o135	16 TEMP s01o135	362 TEMP t01o135	3770 TEMP ts1o135	1790 TEMP t07i135
.10000E-05	163.606	151.610	130.030	128.934	128.907	128.885
.20000E-05	196.752	186.064	166.702	165.638	165.612	165.590

31.558	196.752	186.064	166.702	165.638	165.612	165.590
.31558E+07	216.573	206.581	188.367	187.290	187.263	187.241
.63116E+07	219.852	209.991	192.000	190.928	190.901	190.879
.94673E+07	221.363	211.603	193.789	192.723	192.696	192.675
.12623E+08	222.320	212.634	194.954	193.894	193.867	193.845
.15779E+08	222.955	213.331	195.767	194.711	194.685	194.663
.18935E+08	223.379	213.811	196.350	195.299	195.273	195.251
.22090E+08	223.669	214.151	196.784	195.738	195.712	195.691
.25246E+08	223.861	214.390	197.111	196.069	196.043	196.022
.28402E+08	223.975	214.548	197.351	196.314	196.288	196.267
.31558E+08	224.032	214.646	197.527	196.494	196.468	196.447
.63115E+08	223.359	214.290	197.773	196.777	196.751	196.731
.94673E+08	221.648	212.822	196.770	195.804	195.780	195.760
.12623E+09	219.770	211.145	195.475	194.535	194.511	194.492
.15779E+09	218.089	209.625	194.266	193.347	193.324	193.305
.18935E+09	215.800	207.521	192.522	191.628	191.606	191.588
.22090E+09	214.004	205.870	191.153	190.278	190.256	190.238
.25246E+09	212.346	204.353	189.908	189.051	189.030	189.012
.28402E+09	210.182	202.307	188.098	187.259	187.238	187.221
.31558E+09	208.525	200.745	186.729	185.903	185.883	185.866
.63115E+09	191.731	184.986	172.946	172.257	172.239	172.226
.94673E+09	177.549	171.625	161.120	160.535	160.521	160.509
.12623E+10	165.075	159.803	150.508	150.004	149.992	149.982
.15779E+10	154.544	149.841	141.603	141.165	141.154	141.145
.18935E+10	145.930	141.711	134.353	133.967	133.958	133.950
.22090E+10	138.748	134.939	128.318	127.975	127.967	127.960
.25246E+10	132.366	128.899	122.890	122.582	122.574	122.568
.28402E+10	127.368	124.181	118.668	118.388	118.381	118.375
.31558E+10	122.988	120.053	114.986	114.731	114.724	114.719
.63115E+10	102.215	100.425	97.3661	97.2172	97.2136	97.2107
.94673E+10	94.5930	93.1910	90.8044	90.6894	90.6866	90.6843
.12623E+11	90.2430	89.0642	87.0610	86.9651	86.9628	86.9609
.15779E+11	87.1822	86.1553	84.4119	84.3288	84.3268	84.3251
.18935E+11	84.4459	83.5388	82.0003	81.9274	81.9256	81.9242
.22090E+11	82.2075	81.3920	80.0103	79.9450	79.9435	79.9422
.25246E+11	80.2442	79.5085	78.2628	78.2042	78.2028	78.2016
.28402E+11	78.5719	77.9003	76.7639	76.7106	76.7093	76.7083
.31558E+11	77.1532	76.5348	75.4890	75.4400	75.4388	75.4379

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:09 JUN 14, 1995 CP= 73184.860
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1565 TEMP s07i135	1649 TEMP h07i135	1705 TEMP c07i135	1760 TEMP h07o135	1580 TEMP s07o135	1848 TEMP g07i135
.10000E-05	127.615	143.842	159.152	145.646	110.119	108.369
.20000E-05	164.391	178.595	191.530	178.436	144.716	143.000
31.558	164.391	178.595	191.530	178.436	144.716	143.000
.31558E+07	186.050	199.053	210.587	197.620	164.828	163.125
.63116E+07	189.696	202.502	213.800	200.887	168.301	166.602
.94673E+07	191.501	204.160	215.294	202.451	170.082	168.390
.12623E+08	192.679	205.230	216.251	203.466	171.274	169.590
.15779E+08	193.503	205.963	216.890	204.159	172.132	170.455
.18935E+08	194.097	206.477	217.324	204.646	172.773	171.103
.22090E+08	194.542	206.850	217.626	204.997	173.271	171.608
.25246E+08	194.879	207.120	217.832	205.252	173.666	172.010
.28402E+08	195.130	207.308	217.961	205.428	173.978	172.329
.31558E+08	195.315	207.435	218.034	205.547	174.228	172.586
.63115E+08	195.639	207.317	217.519	205.417	175.170	173.583
.94673E+08	194.700	206.045	215.963	204.185	174.822	173.284
.12623E+09	193.460	204.533	214.227	202.727	174.111	172.615
.15779E+09	192.296	203.150	212.665	201.392	173.388	171.926

.18935E+09	190.604	201.206	210.521	199.518	172.232	170.811
.22090E+09	189.275	199.679	208.838	198.046	171.322	169.931
.25246E+09	188.069	198.281	207.287	196.697	170.509	169.149
.28402E+09	186.295	196.348	205.234	194.833	169.133	167.801
.31558E+09	184.954	194.878	203.665	193.416	168.107	166.797
.63115E+09	171.458	180.036	187.736	179.045	157.675	156.586
.94673E+09	159.853	167.382	174.219	166.728	148.375	147.453
.12623E+10	149.413	156.113	162.258	155.706	139.702	138.906
.15779E+10	140.648	146.603	152.125	146.363	132.351	131.661
.18935E+10	133.510	138.844	143.825	138.717	126.311	125.705
.22090E+10	127.567	132.378	136.896	132.327	121.245	120.707
.25246E+10	122.214	126.591	130.723	126.600	116.609	116.126
.28402E+10	118.052	122.074	125.886	122.121	113.004	112.565
.31558E+10	114.424	118.125	121.645	118.199	109.858	109.458
.63115E+10	97.0372	99.2849	101.460	99.4135	94.4902	94.2593
.94673E+10	90.5502	92.3074	94.0161	92.4280	88.6147	88.4371
.12623E+11	86.8491	88.3256	89.7652	88.4365	85.2499	85.1021
.15779E+11	84.2282	85.5140	86.7698	85.6160	82.8502	82.7223
.18935E+11	81.8391	82.9750	84.0862	83.0704	80.6369	80.5246
.22090E+11	79.8660	80.8870	81.8874	80.9769	78.7967	78.6963
.25246E+11	78.1332	79.0543	79.9579	79.1385	77.1770	77.0870
.28402E+11	76.6460	77.4867	78.3123	77.5659	75.7800	75.6981
.31558E+11	75.3807	76.1546	76.9152	76.2292	74.5883	74.5131

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:09 JUN 14, 1995 CP= 73184.880
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3603 TEMP g07o135	4085 TEMP i07i135	4025 TEMP i07o135	4713 TEMP o07o135	3053 TEMP c09i135	2042 TEMP c10i135
.10000E-05	105.008	27.7822	26.9670	26.1400	129.542	129.717
.20000E-05	139.689	70.7324	69.7650	68.7948	162.470	162.667
31.558	139.689	70.7324	69.7650	68.7948	162.470	162.666
.31558E+07	159.852	95.8831	94.8378	93.7920	181.867	181.840
.63116E+07	163.341	100.304	99.2528	98.1973	185.178	185.148
.94673E+07	165.145	102.840	101.788	100.732	186.809	186.780
.12623E+08	166.360	104.628	103.578	102.525	187.893	187.864
.15779E+08	167.240	106.000	104.952	103.902	188.653	188.624
.18935E+08	167.902	107.100	106.054	105.008	189.205	189.175
.22090E+08	168.420	108.021	106.978	105.935	189.620	189.591
.25246E+08	168.836	108.810	107.771	106.732	189.937	189.908
.28402E+08	169.168	109.494	108.458	107.423	190.175	190.145
.31558E+08	169.438	110.098	109.066	108.035	190.353	190.324
.63115E+08	170.544	113.762	112.761	111.765	190.728	190.698
.94673E+08	170.337	115.521	114.551	113.587	189.927	189.895
.12623E+09	169.748	116.535	115.593	114.657	188.837	188.804
.15779E+09	169.125	117.198	116.278	115.365	187.807	187.772
.18935E+09	168.086	117.628	116.736	115.851	186.294	186.257
.22090E+09	167.267	117.948	117.077	116.213	185.105	185.066
.25246E+09	166.541	118.311	117.461	116.617	184.025	183.984
.28402E+09	165.246	117.944	117.113	116.288	182.411	182.372
.31558E+09	164.284	117.731	116.916	116.107	181.194	181.154
.63115E+09	154.493	115.405	114.742	114.083	168.817	168.774
.94673E+09	145.677	112.203	111.653	111.105	158.013	157.967
.12623E+10	137.375	108.208	107.745	107.281	148.145	148.100
.15779E+10	130.333	104.807	104.414	104.018	139.778	139.733
.18935E+10	124.538	101.947	101.607	101.265	132.919	132.874
.22090E+10	119.672	99.5044	99.2071	98.9071	127.175	127.130
.25246E+10	115.199	97.0192	96.7565	96.4918	121.979	121.936
.28402E+10	111.725	95.1436	94.9075	94.6701	117.923	117.880
.31558E+10	108.693	93.5344	93.3215	93.1075	114.373	114.330
.63115E+10	93.8189	84.9022	84.7863	84.6696	97.1931	97.1602

.94673E+10	88.0998	81.1934	81.1065	81.0186	90.7224	90.6946
.12623E+11	84.8221	79.0504	78.9790	78.9069	87.0185	86.9940
.15779E+11	82.4801	77.4670	77.4058	77.3438	84.3885	84.3666
.18935E+11	80.3125	75.9003	75.8470	75.7932	81.9941	81.9748
.22090E+11	78.5069	74.5530	74.5058	74.4580	80.0157	79.9983
.25246E+11	76.9171	73.3591	73.3170	73.2745	78.2762	78.2602
.28402E+11	75.5439	72.3036	72.2657	72.2272	76.7829	76.7679
.31558E+11	74.3718	71.3938	71.3592	71.3241	75.5114	75.4972

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i180

*** WARNING *** CP= 73185.040 TIME= 21:40:09
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 13 ITEM= TEMP COMP= NAME= h01o180

VARIABLE 4 IS AT NODE 2 ITEM= TEMP COMP= NAME= s01o180

VARIABLE 5 IS AT NODE 390 ITEM= TEMP COMP= NAME= t01o180

VARIABLE 6 IS AT NODE 3759 ITEM= TEMP COMP= NAME= ts5i180

VARIABLE 7 IS AT NODE 636 ITEM= TEMP COMP= NAME= t05i180

VARIABLE 8 IS AT NODE 516 ITEM= TEMP COMP= NAME= s05i180

VARIABLE 9 IS AT NODE 520 ITEM= TEMP COMP= NAME= h05i180

VARIABLE 10 IS AT NODE 524 ITEM= TEMP COMP= NAME= c05i180

VARIABLE 11 IS AT NODE 528 ITEM= TEMP COMP= NAME= h05o180

VARIABLE 12 IS AT NODE 517 ITEM= TEMP COMP= NAME= s05o180

VARIABLE 13 IS AT NODE 680 ITEM= TEMP COMP= NAME= t05i180

VARIABLE 14 IS AT NODE 872 ITEM= TEMP COMP= NAME= s03i180

VARIABLE 15 IS AT NODE 876 ITEM= TEMP COMP= NAME= h03i180

VARIABLE 16 IS AT NODE 880 ITEM= TEMP COMP= NAME= c03i180

VARIABLE 17 IS AT NODE 883 ITEM= TEMP COMP= NAME= h03o180

VARIABLE 18 IS AT NODE 873 ITEM= TEMP COMP= NAME= s03o180

VARIABLE 19 IS AT NODE 1036 ITEM= TEMP COMP= NAME= t03o180

VARIABLE 20 IS AT NODE 4105 ITEM= TEMP COMP= NAME= i03i180

VARIABLE 21 IS AT NODE 3992 ITEM= TEMP COMP= NAME= i03o180

VARIABLE 22 IS AT NODE 4679 ITEM= TEMP COMP= NAME= o03o180

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES							
VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i180	77.15	.3156E+11	224.0	.3156E+08
3	NSOL	13 TEMP	h01o180	76.67	.3156E+11	216.7	.3156E+08
4	NSOL	2 TEMP	s01o180	75.54	.3156E+11	199.0	.6312E+08
5	NSOL	390 TEMP	t01o180	75.54	.3156E+11	198.9	.6312E+08
6	NSOL	3759 TEMP	ts5i180	75.54	.3156E+11	198.9	.6312E+08
7	NSOL	636 TEMP	t05i180	75.54	.3156E+11	198.9	.6312E+08

8 NSOL	516 TEMP	s05i180	75.54	.3156E+11	199.0	.6312E+08
9 NSOL	520 TEMP	h05i180	76.58	.3156E+11	214.8	.3156E+08
10 NSOL	524 TEMP	c05i180	77.00	.3156E+11	220.9	.3156E+08
11 NSOL	528 TEMP	h05o180	76.59	.3156E+11	214.5	.3156E+08
12 NSOL	517 TEMP	s05o180	75.69	.3156E+11	200.5	.6312E+08
13 NSOL	680 TEMP	t05i180	75.69	.3156E+11	200.5	.6312E+08
14 NSOL	872 TEMP	s03i180	75.69	.3156E+11	200.5	.6312E+08
15 NSOL	876 TEMP	h03i180	76.12	.3156E+11	205.0	.3156E+08
16 NSOL	880 TEMP	c03i180	76.04	.3156E+11	201.5	.6312E+08
17 NSOL	883 TEMP	h03o180	75.50	.3156E+11	191.3	.6312E+08
18 NSOL	873 TEMP	s03o180	73.85	.3156E+11	160.7	.9467E+08
19 NSOL	1036 TEMP	t03o180	73.85	.3156E+11	160.6	.9467E+08
20 NSOL	4105 TEMP	i03i180	28.07	.1000E-05	117.9	.2525E+09
21 NSOL	3992 TEMP	i03o180	27.38	.1000E-05	117.2	.2525E+09
22 NSOL	4679 TEMP	o03o180	26.14	.1000E-05	116.1	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:12 JUN 14, 1995 CP= 73188.160
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i180	13 TEMP h01o180	2 TEMP s01o180	390 TEMP t01o180	3759 TEMP ts5i180	636 TEMP t05i180
.10000E-05	163.606	154.393	131.455	131.360	131.360	131.367
.20000E-05	196.752	188.504	168.098	168.007	168.007	168.014
31.558	196.752	188.504	168.099	168.007	168.007	168.014
.31558E+07	216.573	208.790	189.705	189.615	189.615	189.622
.63116E+07	219.852	212.165	193.331	193.242	193.242	193.250
.94673E+07	221.363	213.753	195.114	195.026	195.026	195.033
.12623E+08	222.320	214.767	196.272	196.184	196.184	196.192
.15779E+08	222.955	215.449	197.079	196.991	196.991	196.998
.18935E+08	223.379	215.915	197.655	197.568	197.568	197.575
.22090E+08	223.669	216.244	198.084	197.997	197.997	198.004
.25246E+08	223.861	216.472	198.405	198.318	198.318	198.325
.28402E+08	223.975	216.620	198.639	198.553	198.553	198.560
.31558E+08	224.032	216.708	198.809	198.724	198.724	198.731
.63115E+08	223.359	216.281	199.009	198.927	198.927	198.934
.94673E+08	221.648	214.759	197.967	197.887	197.887	197.894
.12623E+09	219.770	213.038	196.639	196.561	196.561	196.567
.15779E+09	218.089	211.483	195.402	195.326	195.326	195.333
.18935E+09	215.800	209.339	193.626	193.553	193.553	193.559
.22090E+09	214.004	207.656	192.232	192.159	192.159	192.165
.25246E+09	212.346	206.108	190.963	190.892	190.892	190.898
.28402E+09	210.182	204.038	189.131	189.062	189.062	189.067
.31558E+09	208.525	202.456	187.744	187.676	187.676	187.682
.63115E+09	191.731	186.473	173.788	173.731	173.731	173.735
.94673E+09	177.549	172.937	161.830	161.782	161.782	161.786
.12623E+10	165.075	160.975	151.117	151.075	151.075	151.079
.15779E+10	154.544	150.889	142.130	142.094	142.094	142.097
.18935E+10	145.930	142.651	134.815	134.783	134.783	134.786
.22090E+10	138.748	135.789	128.727	128.699	128.699	128.701
.25246E+10	132.366	129.674	123.255	123.230	123.230	123.232
.28402E+10	127.368	124.893	118.999	118.976	118.976	118.978
.31558E+10	122.988	120.709	115.287	115.266	115.266	115.268
.63115E+10	102.215	100.826	97.5384	97.5263	97.5263	97.5272
.94673E+10	94.5930	93.5053	90.9366	90.9273	90.9273	90.9280
.12623E+11	90.2430	89.3285	87.1710	87.1632	87.1632	87.1638
.15779E+11	87.1822	86.3856	84.5071	84.5003	84.5004	84.5009
.18935E+11	84.4459	83.7424	82.0839	82.0780	82.0780	82.0785
.22090E+11	82.2075	81.5751	80.0849	80.0797	80.0797	80.0801
.25246E+11	80.2442	79.6738	78.3299	78.3252	78.3252	78.3255
.28402E+11	78.5719	78.0512	76.8248	76.8205	76.8205	76.8208
.31558E+11	77.1532	76.6737	75.5448	75.5409	75.5409	75.5412

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:12 JUN 14, 1995 CP= 73188.180
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	516 TEMP s05i180	520 TEMP h05i180	524 TEMP c05i180	528 TEMP h05o180	517 TEMP s05o180	680 TEMP t05i180
.10000E-05	131.453	152.547	160.772	152.924	134.889	134.828
.20000E-05	168.096	186.669	193.850	186.742	170.748	170.688
31.558	168.096	186.669	193.849	186.741	170.748	170.688
.31558E+07	189.701	206.808	213.321	206.543	191.565	191.506
.63116E+07	193.328	210.186	216.592	209.885	195.099	195.039
.94673E+07	195.111	211.781	218.111	211.465	196.833	196.774
.12623E+08	196.269	212.803	219.079	212.477	197.957	197.899
.15779E+08	197.075	213.494	219.725	213.161	198.738	198.679
.18935E+08	197.652	213.969	220.161	213.633	199.294	199.236
.22090E+08	198.080	214.305	220.462	213.966	199.706	199.648
.25246E+08	198.401	214.541	220.666	214.201	200.012	199.955
.28402E+08	198.636	214.696	220.792	214.355	200.235	200.177
.31558E+08	198.806	214.792	220.859	214.450	200.394	200.337
.63115E+08	199.006	214.427	220.285	214.091	200.525	200.469
.94673E+08	197.964	212.957	218.659	212.635	199.444	199.390
.12623E+09	196.636	211.281	216.856	210.972	198.090	198.038
.15779E+09	195.400	209.762	215.237	209.467	196.835	196.784
.18935E+09	193.624	207.662	213.021	207.383	195.040	194.990
.22090E+09	192.229	206.014	211.283	205.748	193.630	193.582
.25246E+09	190.960	204.498	209.679	204.243	192.345	192.298
.28402E+09	189.128	202.460	207.570	202.221	190.512	190.465
.31558E+09	187.742	200.903	205.956	200.677	189.122	189.076
.63115E+09	173.786	185.175	189.587	185.048	175.080	175.042
.94673E+09	161.829	171.833	175.735	171.771	163.033	163.001
.12623E+10	151.116	160.024	163.517	160.005	152.234	152.207
.15779E+10	142.129	150.058	153.186	150.064	143.153	143.129
.18935E+10	134.814	141.918	144.732	141.940	135.753	135.732
.22090E+10	128.726	135.135	137.682	135.167	129.588	129.569
.25246E+10	123.255	129.086	131.409	129.126	124.052	124.035
.28402E+10	118.999	124.358	126.497	124.400	119.739	119.724
.31558E+10	115.287	120.220	122.192	120.264	115.974	115.960
.63115E+10	97.5382	100.538	101.749	100.579	97.9701	97.9621
.94673E+10	90.9365	93.2824	94.2313	93.3161	91.2752	91.2690
.12623E+11	87.1709	89.1423	89.9407	89.1714	87.4555	87.4504
.15779E+11	84.5070	86.2239	86.9197	86.2496	84.7549	84.7504
.18935E+11	82.0839	83.6005	84.2157	83.6240	82.3035	82.2997
.22090E+11	80.0849	81.4482	82.0017	81.4699	80.2828	80.2793
.25246E+11	78.3298	79.5597	80.0592	79.5795	78.5084	78.5053
.28402E+11	76.8247	77.9473	78.4034	77.9655	76.9877	76.9849
.31558E+11	75.5448	76.5781	76.9981	76.5949	75.6945	75.6919

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:12 JUN 14, 1995 CP= 73188.190
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	872 TEMP s03i180	876 TEMP h03i180	880 TEMP c03i180	883 TEMP h03o180	873 TEMP s03o180	1036 TEMP t03o180
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.10000E-05	134.839	142.921	140.701	129.268	92.4332	92.2886
.20000E-05	170.696	176.950	173.957	162.847	128.122	127.970
31.558	170.696	176.950	173.956	162.847	128.122	127.971
.31558E+07	191.510	196.721	193.247	182.304	148.817	148.663
.63116E+07	195.044	200.096	196.559	185.659	152.430	152.275
.94673E+07	196.778	201.722	198.162	187.321	154.341	154.187
.12623E+08	197.903	202.780	199.212	188.419	155.639	155.485
.15779E+08	198.683	203.507	199.937	189.191	156.592	156.438
.18935E+08	199.240	204.019	200.451	189.750	157.319	157.165
.22090E+08	199.651	204.392	200.829	190.172	157.899	157.746
.25246E+08	199.958	204.665	201.108	190.494	158.372	158.220
.28402E+08	200.181	204.857	201.308	190.736	158.759	158.607
.31558E+08	200.340	204.989	201.449	190.918	159.081	158.929
.63115E+08	200.473	204.937	201.491	191.301	160.594	160.448
.94673E+08	199.394	203.740	200.392	190.493	160.710	160.568
.12623E+09	198.041	202.300	199.043	189.393	160.388	160.250
.15779E+09	196.787	200.977	197.798	188.352	159.980	159.846
.18935E+09	194.993	199.108	196.026	186.823	159.192	159.061
.22090E+09	193.585	197.642	194.635	185.620	158.566	158.438
.25246E+09	192.301	196.299	193.364	184.529	158.025	157.900
.28402E+09	190.469	194.430	191.570	182.902	156.895	156.772
.31558E+09	189.080	193.009	190.209	181.674	156.064	155.944
.63115E+09	175.046	178.619	176.391	169.195	147.579	147.481
.94673E+09	163.004	166.287	164.488	158.312	139.752	139.670
.12623E+10	152.210	155.242	153.760	148.376	132.216	132.146
.15779E+10	143.132	145.898	144.659	139.954	125.820	125.760
.18935E+10	135.735	138.264	137.212	133.053	120.546	120.494
.22090E+10	129.572	131.892	130.987	127.277	116.110	116.064
.25246E+10	124.038	126.182	125.395	122.055	111.991	111.949
.28402E+10	119.726	121.720	121.024	117.979	108.798	108.761
.31558E+10	115.962	117.816	117.196	114.414	106.017	105.983
.63115E+10	97.9637	99.1449	98.8276	97.1917	92.2480	92.2290
.94673E+10	91.2703	92.2087	91.9768	90.7127	86.8871	86.8727
.12623E+11	87.4515	88.2478	88.0611	87.0061	83.8103	83.7984
.15779E+11	84.7514	85.4488	85.2905	84.3757	81.6027	81.5924
.18935E+11	82.3005	82.9206	82.7853	81.9811	79.5416	79.5327
.22090E+11	80.2801	80.8407	80.7224	80.0026	77.8172	77.8092
.25246E+11	78.5060	79.0141	78.9100	78.2629	76.2971	76.2899
.28402E+11	76.9855	77.4512	77.3582	76.7695	74.9797	74.9732
.31558E+11	75.6925	76.1227	76.0386	75.4979	73.8534	73.8475

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:12 JUN 14, 1995 CP= 73188.200
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4105 TEMP	3992 TEMP	4679 TEMP
	i03i180	i03o180	o03o180
.10000E-05	28.0709	27.3814	26.1400
.20000E-05	70.8818	70.0930	68.7684
31.558	70.8819	70.0930	68.7684
.31558E+07	95.4841	94.6348	93.2213
.63116E+07	99.8912	99.0378	97.6189
.94673E+07	102.421	101.569	100.153
.12623E+08	104.206	103.354	101.947
.15779E+08	105.575	104.726	103.326
.18935E+08	106.674	105.827	104.433
.22090E+08	107.594	106.750	105.363
.25246E+08	108.383	107.542	106.161
.28402E+08	109.067	108.229	106.854
.31558E+08	109.671	108.836	107.468
.63115E+08	113.339	112.530	111.214
.94673E+08	115.104	114.321	113.048
.12623E+09	116.125	115.364	114.128

.15779E+09	116.794	116.051	114.846
.18935E+09	117.230	116.510	115.340
.22090E+09	117.556	116.853	115.710
.25246E+09	117.924	117.237	116.121
.28402E+09	117.567	116.895	115.804
.31558E+09	117.362	116.703	115.631
.63115E+09	115.095	114.557	113.674
.94673E+09	111.937	111.490	110.748
.12623E+10	107.981	107.603	106.969
.15779E+10	104.609	104.286	103.740
.18935E+10	101.769	101.490	101.012
.22090E+10	99.3427	99.0978	98.6760
.25246E+10	96.8723	96.6553	96.2805
.28402E+10	95.0068	94.8116	94.4733
.31558E+10	93.4059	93.2295	92.9230
.63115E+10	84.8207	84.7237	84.5512
.94673E+10	81.1284	81.0552	80.9238
.12623E+11	78.9950	78.9348	78.8261
.15779E+11	77.4185	77.3668	77.2728
.18935E+11	75.8580	75.8130	75.7310
.22090E+11	74.5153	74.4753	74.4023
.25246E+11	73.3249	73.2892	73.2239
.28402E+11	72.2722	72.2399	72.1806
.31558E+11	71.3643	71.3349	71.2806

***** ROUTINE COMPLETED ***** CP = 73188.210

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21w.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 64
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

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*-----*
                        ANSYS RUN COMPLETED
*-----*

REV. 5.0 A                                HP 9000/7XX

CP TIME      (sec) =      73192.390      TIME = 21:40:16
ELAPSED TIME (sec) =      82826.000      DATE  = 06/14/95

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WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****

JOB NAME = ucf21j
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****

WORK SPACE REQUESTED	=	16777216	64.000 MB	COMMAND LINE
MINIMUM WORK SPACE REQUIRED	=	4718592	18.000 MB	
MINIMUM WORK SPACE RECOMMENDED	=	6702496	25.568 MB	
WORK SPACE OBTAINED	=	16777214	64.000 MB	
BYTES PER WORD	=	4		

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 ERRORS ENCOUNTERED IN EITHER THE DOCUMENTATION OR THE
 RESULTS SHOULD BE IMMEDIATELY BROUGHT TO OUR ATTENTION.

ENTER /SHOW,device TO SET THE GRAPHICS DISPLAY TO device(e.g. X11,4207,ETC.)
 ENTER /MENU,ON TO START THE ANSYS MENU SYSTEM
 ENTER HELP FOR GENERAL ANSYS HELP INFORMATION

```

1 /COM, *****
2 /COM, ANSYS REVISION 5.0A 6/10/1995
3 /COM, 2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf21j.inp
7 /COM, * 21 PWR UCF with Low T.L. Disposal Container
8 /COM, * Helium Fill Gas
9 /COM, *
10 /COM, * Material Property file: props01.dat
11 /COM, *
12 /COM, * SNF Conductivity file: pwr15e.parm
13 /COM, * 15x15 Mark-B4 PWR SNF Assembly
14 /COM, *
15 /COM, * SNF Heat Loads file: snf1048.dat
16 /COM, * SNF Type: 10 years old, 48086 MWd/MTU
17 /COM, *
18 /COM, * Surface Temp. file: c21j5a.parm
    
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19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 67.5 m *
22 /COM, *      WP c/c spacing = 21.554 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Read in average effective conductivities from SNF model
33 PARRES,CHANGE,pwr15e,param,
34 /COM, Read in surface temps. from repository model
35 PARRES,CHANGE,c21j5a,param,
36 /COM, *****
37 /COM,
38 /COM, Define Required Constants:
39 PI=3.141592654
40 /COM,
41 /COM, Define UCF/waste package parameters
42 /COM, (UCF dimensions converted from inches/cm/mm to meters were requi
43 /COM, MIRAD = inner radius of UCF He Backfill shell (m) (NOT
44 /COM, MWALL = UCF He Backfill shell thickness (m) (NOT
45 /COM, DCRAD = disposal container outer radius (m)
46 /COM, OWALL = outer barrier thickness (m)
47 /COM, IWALL = inner barrier thickness (m)
48 /COM, DCIRD = disposal container inner radius (m)
49 /COM,
50 /COM, GCORN = corner guide width (m)
51 /COM, GWALL = basket guide thickness (m)
52 /COM, GLEN1 = side guide 1/3 width (m) (NOT USED)
53 /COM, GLENT = side guide total width (m) (NOT USED)
54 /COM,
55 /COM, HCELL = 1/2 of basket cell opening (m)
56 /COM, SWALL = stainless tube thickness (m)
57 /COM, TWALL = Aluminum thermal shunt thickness (m)
58 /COM, AWALL = Al/boron tube thickness (m) (NOT USED)
59 /COM,
60 /COM, ACTVL = active fuel length
61 /COM, PEAKF = assembly heat axial peaking factor
62 /COM,
63 /COM, MIRAD=1363.6/1000.0/2.0
64 /COM, MWALL=1.0000*2.54/100.0
65 DCRAD=1.5290/2.0
66 OWALL=0.0500
67 IWALL=0.0200
68 DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 GCORN=233.5/1000.0
71 GWALL=9.5/1000.0
72 /COM, GLEN1=9.6170*2.54/100.0
73 /COM, GLENT=28.866*2.54/100.0
74 /COM,
75 HCELL=223.5/1000.0/2.0
76 SWALL=5.0/1000.0
77 TWALL=10.0/1000.0
78 /COM, AWALL=0.2500*2.54/100.0
79 /COM,
80 ACTVL=141.8*2.54/100.0
81 PEAKF=1.25
82 /COM, Define calculated parameters
83 /COM, ASSY = assembly heat production (W) f(yrs)
84 /COM, FUEL = volumetric heat production (W/m3) f(yrs)
85 /COM, FVOLL = assy_volume=cell_width^2*active_length
86 /COM,
87 /COM, PITCH = basket cell outer width (m)
88 /COM, QCELL = 1/4 of basket cell opening (m)

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89 /COM,          SCELL = 1/2 of basket cell opening+SS wall(m)
90 /COM,          ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)
91 /COM,
92 /COM,          GX## = x coord. of basket guide or thermal shunt/shell c
93 /COM,          GX## = y coord. of basket guide or thermal shunt/shell c
94 /COM,
95 /COM,          MI45 = x coord. MIRAD at 45 deg. (NOT USED)
96 /COM,          MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
97 /COM,          DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
98 /COM,          DM45 = x coord. DCRAD-OWALL at 45 deg.
99 /COM,          DO45 = x coord. DCRAD at 45 deg.
100 *SET,ASSY,
101 *DIM,ASSY, TABLE,101,1,
102 *DIM,FUEL, TABLE,101,1
103 FVOLUME=4*HCELL*HCELL*ACTVL
104 /COM,
105 PITCH=(HCELL+SWALL)*2.0
106 QCELL=HCELL/2.0
107 SCELL=HCELL+SWALL
108 /COM, ACELL=HCELL+SWALL+AWALL
109 /COM,
110 GX22=SCELL
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=SCELL+TWALL
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=PITCH+TWALL+SCELL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 GX25=GX23+PITCH+GWALL
117 GY25=SQRT(DCIRD*DCIRD-GX25*GX25)
118 /COM,
119 /COM, MI45=MIRAD/SQRT(2.0)
120 /COM, MO45=(MIRAD+MWALL)/SQRT(2.0)
121 DI45=DCIRD/SQRT(2.0)
122 DM45=(DCIRD-OWALL)/SQRT(2.0)
123 DO45=DCIRD/SQRT(2.0)
124 /COM,
125 /COM,          Define Transient Time parameters based upon the following:
126 /COM,          Note: 1 year = 3.15576e7 seconds
127 /COM,          TM_START = start time (sec)
128 /COM,          TMI* = time increment for solution (sec)
129 /COM,          TME* = start and stop for time do-loops (sec)
130 /COM,          TMTMAX = time of maximum cladding temperature
131 /COM,
132 TM_START=(1.0E-6)*(3.15576E7)
133 TMI0=0.1*3.15576E7
134 TMI1=1.0*3.15576E7
135 TMI10=10.0*3.15576E7
136 TMI100=100.0*3.15576E7
137 TMI1000=1000.0*3.15576E7
138 TME0=0.9*3.15576E7+TM_START
139 TME1=TMI1+TM_START
140 TME9=9.0*3.15576E7+TM_START
141 TME10=TMI10+TM_START
142 TME50=50.0*3.15576E7+TM_START
143 TME90=90.0*3.15576E7+TM_START
144 TME100=TMI100+TM_START
145 TME1000=TMI1000+TM_START
146 /COM,
147 /COM,          *****
148 /COM,          Define different element types
149 /PREP7
150 ETYPE
151 ET, 1,55,
152 ET, 2,70,
153 ET, 7,32,
154 ET, 16,57,
155 ET, 17,32,
156 ET, 18,50,1,
157 ET, 19,31,
158 ET, 27,32,

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159 /COM, *****
160 /COM,      File props01.dat describes material properties
161 /COM,      and thier reference numbers
162 MPREAD,props01,dat,
163 /COM,      Read in single assembly heat loads
164 /COM,      Calculate the volumetric heat generation
165 /COM,      (Assembly time is in years, FUEL is in seconds)
166 /INPUT,snf1048,dat
167 *VFACT,3.15576E7,
168 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
169 *VFACT,(PEAKF/FVOLUME),
170 *VFUN,FUEL(1),COPY,ASSY(1),
171 FUEL(0,1)=1.0
172 /COM, *****
173 /COM,      Define new material 14 for SNF effective conductivity
174 /COM,      Density:      DENS      (kg/m^3)
175 /COM,      Conductivity: KXX      (W/m/K)
176 /COM,      Specific Heat: C      (J/kg/K)
177 MPTMP
178 MPTMP, 1, .00000E+00,
179 MPDATA,DENS,14, 1, .396004E+04,
180 MPDATA, C,14, 1, .27400E+03,
181 /COM,      Store average effective conductivities
182 IINC=1
183 TBSKT=25.0
184 MPTMP
185 MPTMP,IINC,TBSKT,
186 IINC=IINC+1
187 *DO,TBSKT,50.0,400.0,50.0,
188     MPTMP,IINC,TBSKT,
189     IINC=IINC+1
190 *ENDDO
191 IINC=1
192 TBSKT=25.0
193 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
194 IINC=IINC+1
195 *DO,TBSKT,50.0,400.0,50.0,
196     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
197     IINC=IINC+1
198 *ENDDO
199 /COM, *****
200 /COM,      Define new material 15 for low thermal loading
201 /COM,      outer barrier of 70/30 Copper Nickel (C71500)
202 /COM,      Density:      DENS      (kg/m^3)
203 /COM,      Conductivity: KXX      (W/m/K)
204 /COM,      Specific Heat: C      (J/kg/K)
205 MPTMP
206 MPTMP, 1, .00000E+00,
207 /COM,      Density (lb/in^3 converted to kg/m^3)
208 MPDATA,DENS,15, 1,(0.323*2.768E+04),
209 /COM,      Specific Heat (Btu/lb/F converted to J/kg/K)
210 MPDATA, C,15, 1,(0.09/2.3886E-04),
211 /COM,      Conductivity (Btu/hr/ft/F converted to W/m/K)
212 MPTMP
213 MPTMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
214 MPTMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
215 MPTMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
216 MPTMP, 7, (5.0/9.0*(1112.0-32.0)), (5.0/9.0*(1292.0-32.0)),
217 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
218 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
219 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
220 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
221 /COM, *****
222 /COM,      Construct geometry for Disposal Container
223 /COM,
224 /COM,      Define center and axis keypoints for waste package
225 /COM,      Also, create placeholder keypoints and lines
226 /COM,      (K's 1,2,3,4,5,6,7,8)
227 /COM,      (L's 1,2,3,4)
228 K,1,0.0,0.0,0.0,

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229 K,2,0.0,0.0,1.0,
230 K,3,0.0,0.0,1.3,
231 K,4,0.0,0.0,1.4,
232 K,5,0.0,0.0,1.5,
233 K,6,0.0,0.0,1.6,
234 K,7,0.0,0.0,1.7,
235 K,8,0.0,0.0,1.8,
236 L,3,4,
237 L,4,5,
238 L,5,6,
239 L,6,7,
240 /COM, Define disposal container outer radius and material interface
241 /COM, (K's 9,10,11,12,13,14)
242 /COM, (L's 5,6,7,8,9,10,11)
243 /COM, (A's 1,2)
244 K, 9, 0.0, (0.0-DCRAD),0.0,
245 K,10, DCRAD, 0.0,0.0,
246 K,11, 0.0, DCRAD,0.0,
247 K,12, 0.0, (OWALL-DCRAD),0.0,
248 K,13, (DCRAD-OWALL), 0.0,0.0,
249 K,14, 0.0, (DCRAD-OWALL),0.0,
250 L,10,13,
251 LARC,10, 9,1, DCRAD,
252 LARC,11,10,1, DCRAD,
253 LARC,13,12,1, (DCRAD-OWALL),
254 LARC,14,13,1, (DCRAD-OWALL),
255 L,11,14,
256 L, 9,12,
257 AL, 5, 6,11, 8,
258 AL,10, 7, 5, 9,
259 /COM, *****
260 /COM, Define UCF shell inner edge and area
261 /COM, (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
262 /COM, ( 31,32,33)
263 /COM, (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
264 /COM, ( 28,29,30,31,32)
265 /COM, (A's 3,4)
266 K,15, 0.0, DCIRD,0.0,
267 K,16, GX22, GY22,0.0,
268 K,17, GX23, GY23,0.0,
269 K,18, GX24, GY24,0.0,
270 K,19, GX25, GY25,0.0,
271 K,20, GY25, GX25,0.0,
272 K,21, GY24, GX24,0.0,
273 K,22, GY23, GX23,0.0,
274 K,23, GY22, GX22,0.0,
275 K,24,DCIRD, 0.0,0.0,
276 K,25, GY22, (0.0-GX22),0.0,
277 K,26, GY23, (0.0-GX23),0.0,
278 K,27, GY24, (0.0-GX24),0.0,
279 K,28, GY25, (0.0-GX25),0.0,
280 K,29, GX25, (0.0-GY25),0.0,
281 K,30, GX24, (0.0-GY24),0.0,
282 K,31, GX23, (0.0-GY23),0.0,
283 K,32, GX22, (0.0-GY22),0.0,
284 K,33, 0.0,(0.0-DCIRD),0.0,
285 L,14,15,
286 LARC,16,15,1,DCIRD,
287 LARC,17,16,1,DCIRD,
288 LARC,18,17,1,DCIRD,
289 LARC,19,18,1,DCIRD,
290 LARC,20,19,1,DCIRD,
291 LARC,21,20,1,DCIRD,
292 LARC,22,21,1,DCIRD,
293 LARC,23,22,1,DCIRD,
294 LARC,24,23,1,DCIRD,
295 LARC,25,24,1,DCIRD,
296 LARC,26,25,1,DCIRD,
297 LARC,27,26,1,DCIRD,
298 LARC,28,27,1,DCIRD,

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299 LARC,29,28,1,DCIRD,
300 LARC,30,29,1,DCIRD,
301 LARC,31,30,1,DCIRD,
302 LARC,32,31,1,DCIRD,
303 LARC,33,32,1,DCIRD,
304 L,33,12,
305 L,24,13,
306 LSEL,S,LINE,,12,21,
307 LSEL,A,LINE,, 9,
308 LSEL,A,LINE,,32,
309 AL,ALL,
310 LSEL,S,LINE,,22,31,
311 LSEL,A,LINE,, 8,
312 LSEL,A,LINE,,32,
313 AL,ALL,
314 LSEL,ALL,
315 /COM, *****
316 /COM,          Define tube guides
317 /COM,          (K's 34,35,36,37)
318 /COM,          (L's 33,34,35,36,37,38,39,40,41,42)
319 /COM,          (A's 5,6,7,8,9,10)
320 /COM,
321 /COM,          top guide
322 K,34,          GX24,          GX24,0.0,
323 K,35,          GX25,          GX25,0.0,
324 L,19,35,
325 L,35,20,
326 L,21,34,
327 L,34,18,
328 /COM,          bottom guide
329 K,36,          GX25, (0.0-GX25),0.0,
330 K,37,          GX24, (0.0-GX24),0.0,
331 L,28,36,
332 L,36,29,
333 L,30,37,
334 L,37,27,
335 L,34,35,
336 L,37,36,
337 /COM,          Guide gaps
338 AL,17,33,34,
339 AL,26,37,38,
340 /COM,          Guide steel
341 AL,16,33,41,36,
342 AL,18,35,41,34,
343 AL,25,37,42,40,
344 AL,27,39,42,38,
345 /COM, *****
346 /COM,          Define thermal shunts
347 /COM,          (K's 38,39,40,41,42,43,44,45,46,47,48,49,50)
348 /COM,          ( 51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)
349 /COM,          (L's 43,44,45,46,47,48,49)
350 /COM,          ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)
351 /COM,          ( 67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)
352 /COM,          ( 84,85,86,87,88,89,90)
353 /COM,          (A's 11 - 27)
354 /COM,
355 /COM,          top horizontal thermal shunt
356 K,38,          0.0,          SCELL,0.0,
357 K,39,          0.0,          (SCELL+TWALL),0.0,
358 K,40,          SCELL,          SCELL,0.0,
359 K,41,          SCELL,          (SCELL+TWALL),0.0,
360 K,42,          (SCELL+TWALL),          SCELL,0.0,
361 K,43,          (SCELL+TWALL),          (SCELL+TWALL),0.0,
362 K,44,(SCELL+TWALL+1.0*PITCH),          SCELL,0.0,
363 K,45,(SCELL+TWALL+1.0*PITCH),          (SCELL+TWALL),0.0,
364 K,46,(SCELL+TWALL+2.0*PITCH),          SCELL,0.0,
365 K,47,(SCELL+TWALL+2.0*PITCH),          (SCELL+TWALL),0.0,
366 /COM,          bottom horizontal thermal shunt
367 K,48,          0.0,          (0.0-SCELL),0.0,
368 K,49,          0.0,          (0.0-SCELL-TWALL),0.0,

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369 K,50,          SCELL,          (0.0-SCELL),0.0,
370 K,51,          SCELL,          (0.0-SCELL-TWALL),0.0,
371 K,52,          (SCELL+TWALL),    (0.0-SCELL),0.0,
372 K,53,          (SCELL+TWALL),    (0.0-SCELL-TWALL),0.0,
373 K,54,(SCELL+TWALL+1.0*PITCH),    (0.0-SCELL),0.0,
374 K,55,(SCELL+TWALL+1.0*PITCH),    (0.0-SCELL-TWALL),0.0,
375 K,56,(SCELL+TWALL+2.0*PITCH),    (0.0-SCELL),0.0,
376 K,57,(SCELL+TWALL+2.0*PITCH),    (0.0-SCELL-TWALL),0.0,
377 /COM,          right vertical thermal shunt
378 K,58,          SCELL,          (SCELL+TWALL+2.0*PITCH),0.0,
379 K,59,          (SCELL+TWALL),    (SCELL+TWALL+2.0*PITCH),0.0,
380 K,60,          SCELL,          (SCELL+TWALL+1.0*PITCH),0.0,
381 K,61,          (SCELL+TWALL),    (SCELL+TWALL+1.0*PITCH),0.0,
382 K,62,          SCELL,(0.0-SCELL-TWALL-1.0*PITCH),0.0,
383 K,63,          (SCELL+TWALL),(0.0-SCELL-TWALL-1.0*PITCH),0.0,
384 K,64,          SCELL,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
385 K,65,          (SCELL+TWALL),(0.0-SCELL-TWALL-2.0*PITCH),0.0,
386 /COM, Lines; shunt widths, top, bottom, then vertical: (43-60)
387 L,38,39,
388 L,40,41,
389 L,42,43,
390 L,44,45,
391 L,46,47,
392 L,48,49,
393 L,50,51,
394 L,52,53,
395 L,54,55,
396 L,56,57,
397 L,58,59,
398 L,60,61,
399 L,41,43,
400 L,40,42,
401 L,50,52,
402 L,51,53,
403 L,62,63,
404 L,64,65,
405 /COM, Lines; shunt edges, top, bottom, then vertical: (61-90)
406 L,39,41,
407 L,40,38,
408 L,43,45,
409 L,44,42,
410 L,45,47,
411 L,46,44,
412 L,47,22,
413 L,23,46,
414 L,48,50,
415 L,51,49,
416 L,52,54,
417 L,55,53,
418 L,54,56,
419 L,57,55,
420 L,56,25,
421 L,26,57,
422 L,58,16,
423 L,17,59,
424 L,60,58,
425 L,59,61,
426 L,41,60,
427 L,61,43,
428 L,50,40,
429 L,42,52,
430 L,62,51,
431 L,53,63,
432 L,64,62,
433 L,63,65,
434 L,32,64,
435 L,65,31,
436 /COM,          define areas for thermal shunts
437 AL,43,61,44,62,
438 AL,44,55,45,56,

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439 AL,45,63,46,64,
440 AL,46,65,47,66,
441 AL,47,67,20,68,
442 AL,48,69,49,70,
443 AL,49,57,50,58,
444 AL,50,71,51,72,
445 AL,51,73,52,74,
446 AL,52,75,23,76,
447 AL,14,77,53,78,
448 AL,53,79,54,80,
449 AL,54,81,55,82,
450 AL,56,83,57,84,
451 AL,58,85,59,86,
452 AL,59,87,60,88,
453 AL,60,89,29,90,
454 /COM, *****
455 /COM, Define shell gaps at the exterior of the tube array
456 /COM, (K's 66 - 67)
457 /COM, (L's 91 - 99)
458 /COM, (A's 28 - 34)
459 /COM,
460 K,66, 0.0, (SCell+TWALL+2.0*PITCH),0.0,
461 K,67, 0.0,(0.0-SCell-TWALL-2.0*PITCH),0.0,
462 /COM,
463 L,15,66,
464 L,66,58,
465 L,59,18,
466 L,21,47,
467 L,46,56,
468 L,57,27,
469 L,30,65,
470 L,64,67,
471 L,67,33,
472 /COM,
473 AL,13,91,92,77,
474 AL,15,78,93,
475 AL,19,94,67,
476 AL,21,68,95,75,22,
477 AL,24,76,96,
478 AL,28,97,90,
479 AL,30,89,98,99,
480 /COM, *****
481 /COM, Define center half-tube
482 /COM, (K's 68-75)
483 /COM, (L's 100-110)
484 /COM, (A's 35-38)
485 K,68, 0.0, HCELL,0.0,
486 K,69, HCELL, HCELL,0.0,
487 K,70, 0.0, (0.0-HCELL),0.0,
488 K,71, HCELL, (0.0-HCELL),0.0,
489 K,72, 0.0, SCELL,0.0,
490 K,73, SCELL, SCELL,0.0,
491 K,74, 0.0, (0.0-SCELL),0.0,
492 K,75, SCELL, (0.0-SCELL),0.0,
493 L,70,68,
494 L,70,74,
495 L,68,72,
496 L,71,75,
497 L,69,73,
498 L,75,74,
499 L,71,70,
500 L,68,69,
501 L,72,73,
502 L,69,71,
503 L,73,75,
504 AL,100,106,109,107,
505 AL,101,105,103,106,
506 AL,109,103,110,104,
507 AL,102,107,104,108,
508 /COM, *****

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509 /COM,          Define center full-tube
510 /COM,          (K's 76 - 83)
511 /COM,          (L's 111 - 122)
512 /COM,          (A's 39 - 43)
513 K,76,          (PITCH+TWALL-HCELL),          HCELL,0.0,
514 K,77,          (PITCH+TWALL+HCELL),          HCELL,0.0,
515 K,78,          (PITCH+TWALL-HCELL),          (0.0-HCELL),0.0,
516 K,79,          (PITCH+TWALL+HCELL),          (0.0-HCELL),0.0,
517 K,80,          (PITCH+TWALL-SCCELL),          SCCELL,0.0,
518 K,81,          (PITCH+TWALL+SCCELL),          SCCELL,0.0,
519 K,82,          (PITCH+TWALL-SCCELL),          (0.0-SCCELL),0.0,
520 K,83,          (PITCH+TWALL+SCCELL),          (0.0-SCCELL),0.0,
521 L,78,82,
522 L,76,80,
523 L,79,83,
524 L,77,81,
525 L,83,82,
526 L,79,78,
527 L,76,77,
528 L,80,81,
529 L,82,80,
530 L,78,76,
531 L,77,79,
532 L,81,83,
533 AL,120,116,121,117,
534 AL,119,111,120,112,
535 AL,111,115,113,116,
536 AL,121,113,122,114,
537 AL,112,117,114,118,
538 /COM,          *****
539 /COM,          Set element shapes and sizes for tubes
540 /COM,          14x14 mesh in fuel with 2
541 /COM,          divisions per tube layer
542 ESHAPE,2,
543 ESIZE,,1,
544 LSEL,S,LINE,,115,122,1,
545 LSEL,A,LINE,,109,110,1,
546 LSEL,A,LINE,,100,
547 LESIZE,ALL,,,14,
548 LSEL,S,LINE,,105,108,1,
549 LESIZE,ALL,,,7,
550 LSEL,S,LINE,,101,104,1,
551 LSEL,A,LINE,,111,114,1,
552 LESIZE,ALL,,,2,
553 LSEL,ALL,
554 /COM,
555 /COM,          Mesh areas
556 /COM,          first fuel, then stainless tubes
557 MAT,14,
558 TYPE,1,
559 AMESH,35,
560 AMESH,39,
561 MAT,1,
562 TYPE,1,
563 AMESH,36,38,1,
564 AMESH,40,43,1,
565 /COM,          *****
566 /COM,          Copy tube mesh
567 /COM,
568 /COM,          center half tube above and below
569 /COM,          (A's 44 - 47)
570 AGEN,2,35,38,1,0.0,(PITCH+TWALL),0.0,0,0,
571 /COM,          (A's 48 - 51)
572 AGEN,2,35,38,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
573 /COM,          (A's 52 - 55)
574 AGEN,2,35,38,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
575 /COM,          (A's 56 - 59)
576 AGEN,2,35,38,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
577 /COM,
578 /COM,          center full tube side, above, and below

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579 /COM, (A's 60 - 64 = Side)
580 AGEN,2,39,43,1,PITCH,0.0,0.0,0,0,
581 /COM, (A's 65 - 69 = up 1)
582 AGEN,2,39,43,1,0.0,(PITCH+TWALL),0.0,0,0,
583 /COM, (A's 70 - 74 = up 2)
584 AGEN,2,39,43,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
585 /COM, (A's 75 - 79 = down 1)
586 AGEN,2,39,43,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
587 /COM, (A's 80 - 84 = down 2)
588 AGEN,2,39,43,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
589 /COM, center full tube get corners
590 /COM, (A's 85 - 89 = up corner)
591 AGEN,2,60,64,1,0.0,(PITCH+TWALL),0.0,0,0,
592 /COM, (A's 90 - 94 = down corner)
593 AGEN,2,60,64,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
594 /COM,
595 NUMMRG,NODE,
596 NUMMRG,KP,
597 /COM, *****
598 /COM, Create mesh in tube guides, thermal shunts
599 /COM, Set mesh size for gaps.....
600 ESIZE,,2,
601 LSEL,S,LINE,,41,60,1,
602 LSEL,A,LINE,,14,20,2,
603 LSEL,A,LINE,,23,29,2,
604 LESIZE,ALL,,, 2,
605 LSEL,S,LINE,,61,62,1,
606 LSEL,A,LINE,,69,70,1,
607 LSEL,A,LINE,,91,92,1,
608 LSEL,A,LINE,,98,99,1,
609 LSEL,A,LINE,,21,22,1,
610 LSEL,A,LINE,,77,78,1,
611 LSEL,A,LINE,,89,90,1,
612 LSEL,A,LINE,,67,68,1,
613 LSEL,A,LINE,,75,76,1,
614 LSEL,A,LINE,,13,
615 LSEL,A,LINE,,30,
616 LESIZE,ALL,,, 7,
617 LSEL,S,LINE,,63,66,1,
618 LSEL,A,LINE,,71,74,1,
619 LSEL,A,LINE,,79,88,1,
620 LSEL,A,LINE,,33,40,1,
621 LSEL,A,LINE,,93,97,1,
622 LSEL,A,LINE,,15,19,2,
623 LSEL,A,LINE,,24,28,2,
624 LESIZE,ALL,,, 14,
625 /COM, MESH CORNER GUIDES
626 ESHAPE,2,
627 ESIZE,,1,
628 MAT,2,
629 TYPE,1,
630 AMESH,7,10,1,
631 /COM, MESH THERMAL SHUNTS
632 ESHAPE,2,
633 ESIZE,,1,
634 MAT,13,
635 TYPE,1,
636 AMESH,11,27,1,
637 /COM, *****
638 /COM, Create mesh in UCF inner shell
639 /COM, (L's 105,108)
640 LSEL,S,LINE,,13,21,1,
641 LCCAT,ALL,
642 LSEL,S,LINE,,22,30,1,
643 LCCAT,ALL,
644 LSEL,ALL,
645 LESIZE,8,,,64,
646 LESIZE,9,,,64,
647 LESIZE,12,,, 3,
648 LESIZE,31,,, 3,

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649 MAT,2,
650 TYPE,1,
651 AMESH,3,4,1
652 /COM,          Delete concatenatd lines
653 /COM,          (L's freed up 105,108)
654 /COM,  LDELE,105,108,1,  LEAVE THEM FOR NOW, WHO CARES
655 /COM,
656 LSEL,S,LINE,,6,7,1,
657 LSIZE,ALL,,,64,
658 LSEL,ALL,
659 LSIZE, 5,,, 3,
660 LSIZE,10,,, 3,
661 LSIZE,11,,, 3,
662 MAT,15,
663 TYPE,1,
664 AMESH,1,2,1,
665 NUMMRG,NODE,
666 NUMMRG,KP,
667 /COM, *****
668 /COM,          Create mesh in empty basket spaces
669 ESIZE,0.1,
670 ESHAPE,0,
671 MAT,7,
672 TYPE,1,
673 AMESH, 5, 6,1,
674 AMESH,28,34,1,
675 NUMMRG,NODE,
676 NUMMRG,KP,
677 /COM, *****
678 /COM,          Create radiation surface elements
679 /COM,          Basket spaces
680 MAT,2,
681 TYPE,17,
682 LMESH,13,21,2,
683 LMESH,22,30,2,
684 LMESH,33,34,1,
685 LMESH,37,38,1,
686 MAT,1,
687 TYPE,17,
688 LMESH,92,98,1,
689 MAT,13,
690 TYPE,17,
691 LMESH,67,68,1,
692 LMESH,75,78,1,
693 LMESH,89,90,1,
694 /COM,
695 FINISH
696 /COM, *****
697 /COM,          Create element mesh plots to illustrate model
698 /COM,          View mesh for entire model
699 /RESET
700 /TRIAD,OFF,
701 /NUM, 1,
702 /PNUM,MAT, 1,
703 /TYPE,HIDP,
704 /GLINE,,0,
705 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
706 /TITLE, 21 PWR UCF/Waste Package - 1/2 FEM Model
707 /SHOW,meshfull,grph,1,8,
708 EPLOT
709 ESEL,U,MAT,, 7,
710 /SHOW,meshgap,grph,1,8,
711 EPLOT
712 /COM,          View mesh for radiation substructure
713 /PNUM,MAT, 0,
714 /PNUM,TYPE, 1,
715 ESEL,S,TYPE,,17,
716 /TITLE, 21 PWR UCF/Waste Package - Radiation Matrix
717 /SHOW,meshrad,grph,1,8,
718 EPLOT

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719 ESEL,ALL,
720 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
721 /COM, *****
722 /COM,          Generate super-elements
723 /AUX12,
724 ESEL,S,TYPE,,17,
725 NSLE,S,
726 STEF,5.67E-8,
727 GEOM,1,0,
728 VTYPE,0,800,
729 WRITE,spaces,
730 ESEL,ALL,
731 NSEL,ALL,
732 FINISH
733 /PREP7,
734 TYPE,18,
735 SE,spaces,
736 /COM,          Delete radiation edge elements
737 LSEL,S,TYPE,,17,
738 LCLEAR,ALL,
739 LSEL,ALL,
740 FINISH
741 /COM, *****
742 /COM,          Set solution parameters and apply B.C.'s
743 /COM,
744 /COM,          Solve steady-state for initial conditions
745 /COM,          with WP surface equal to drift ambient
746 /COM,          temperature from repository model.
747 /SOLU
748 ANTYPE,TRAN,NEW,
749 NROPT,AUTO,
750 TRNOPT,FULL,
751 TOFFST,273.15,
752 LSEL,S,LINE,,6,
753 LSEL,A,LINE,,7,
754 NSLL,S,1,
755 D,ALL,TEMP,DFAMBT,
756 LSEL,ALL,
757 NSEL,ALL,
758 ASEL,S,MAT,,14,
759 ESLA,S,
760 BFE,ALL,HGEN,,(FUEL(TM_START)),
761 ASEL,ALL,
762 ESEL,ALL,
763 TIMINT,OFF,
764 TIME,1e-6,
765 AUTOTS,ON,
766 KBC,0,
767 SOLVE
768 /COM,          Solve steady-state for initial conditions
769 /COM,          with WP surface temperatures from repository
770 /COM,          steady-state solution.
771 LSEL,S,LINE,,6,
772 LSEL,A,LINE,,7,
773 NSLL,S,1,
774 DDELE,ALL,TEMP,
775 LSEL,ALL,
776 NSEL,ALL,
777 DK,11,TEMP,(WPTOP(TM_START)),,1,
778 DK,10,TEMP,(WPSID(TM_START)),,1,
779 DK, 9,TEMP,(WPBOT(TM_START)),,1,
780 ASEL,S,MAT,,14,
781 ESLA,S,
782 BFE,ALL,HGEN,,(FUEL(TM_START)),
783 ASEL,ALL,
784 ESEL,ALL,
785 TIMINT,OFF,
786 TIME,2e-6,
787 AUTOTS,ON,
788 KBC,0,

```

```

789 SOLVE
790 /COM, *****
791 /COM, Set time integration parameters
792 TIMINT,ON,
793 AUTOTS,ON,
794 /COM, Time substep ranges from 10 sec to 1/4 loadstep
795 NSUBST,10,40,5,ON
796 /COM, Begin Transient
797 /COM, Apply loads and solve for 0 to .9 years
798 *DO,TM,TM_START,TME3,TM10
799 TIME,TM,
800 ASEL,S,MAT,,14,
801 ESLA,S,
802 BFE,ALL,HGEN,,(FUEL(TM)),
803 ASEL,ALL
804 ESEL,ALL
805 DK,11,TEMP,(WPTOP(TM)),,1,
806 DK,10,TEMP,(WPSID(TM)),,1,
807 DK, 9,TEMP,(WPBOT(TM)),,1,
808 SOLVE
809 *ENDDO
810 /COM, Apply loads and solve for 1 to 9 years
811 *DO,TM,TME1,TME9,TM11
812 TIME,TM,
813 ASEL,S,MAT,,14,
814 ESLA,S,
815 BFE,ALL,HGEN,,(FUEL(TM)),
816 ASEL,ALL
817 ESEL,ALL
818 DK,11,TEMP,(WPTOP(TM)),,1,
819 DK,10,TEMP,(WPSID(TM)),,1,
820 DK, 9,TEMP,(WPBOT(TM)),,1,
821 SOLVE
822 *ENDDO
823 /COM, Apply loads and solve for 10 to 90 years
824 *DO,TM,TME10,TME90,TM110
825 TIME,TM,
826 ASEL,S,MAT,,14,
827 ESLA,S,
828 BFE,ALL,HGEN,,(FUEL(TM)),
829 ASEL,ALL
830 ESEL,ALL
831 DK,11,TEMP,(WPTOP(TM)),,1,
832 DK,10,TEMP,(WPSID(TM)),,1,
833 DK, 9,TEMP,(WPBOT(TM)),,1,
834 SOLVE
835 *ENDDO
836 /COM, Apply loads and solve for 100 to 1000 years
837 *DO,TM,TME100,TME1000,TM1100
838 TIME,TM,
839 ASEL,S,MAT,,14,
840 ESLA,S,
841 BFE,ALL,HGEN,,(FUEL(TM)),
842 ASEL,ALL
843 ESEL,ALL
844 DK,11,TEMP,(WPTOP(TM)),,1,
845 DK,10,TEMP,(WPSID(TM)),,1,
846 DK, 9,TEMP,(WPBOT(TM)),,1,
847 SOLVE
848 *ENDDO
849 FINISH
850 SAVE,
851 /COM, *****
852 /COM, Create element contour plots of solution results
853 /COM,
854 /COM, Sort through solution results for time of max temp.
855 /POST26,
856 NSOL,2,(NODE(0.0,0.0,0.0)),TEMP,,peakclad,
857 STORE,NEW,
858 *GET,TMTMAX,VARI,2,XTREM,TMAX,

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```

859 FINISH
860 /POST1,
861 /COM,          Create temperature contour plots of WP at peak
862 /RESET
863 /TRIAD,OFF,
864 /NUM, 1,
865 /PNUM,MAT, 1,
866 /TYPE,HIDP,
867 /GLINE,,-1,
868 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
869 ESEL,U,MAT,,7,
870 SET,NEAR,,,,TMTMAX,
871 /TITLE, 21 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
872 /SHOW,solupk,grph,0,8,
873 /CONTOUR,1,128,AUTO,
874 PLNSOL,TEMP,
875 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
876 SET,NEAR,,,,TME10,
877 /TITLE, 21 PWR UCF/WP at 10 years
878 /SHOW,solu10,grph,0,8,
879 /CONTOUR,1,128,USER,
880 PLNSOL,TEMP,
881 SET,NEAR,,,,TME50,
882 /TITLE, 21 PWR UCF/WP at 50 years
883 /SHOW,solu50,grph,0,8,
884 /CONTOUR,1,128,USER,
885 PLNSOL,TEMP,
886 SET,NEAR,,,,TME100,
887 /TITLE, 21 PWR UCF/WP at 100 years
888 /SHOW,solu100,grph,0,8,
889 /CONTOUR,1,128,USER,
890 PLNSOL,TEMP,
891 ESEL,ALL,
892 FINISH
893 /COM,          *****
894 /COM,          Print time/temperature output at specific locations
895 /COM,          Save profile from center to edge
896 /COM,
897 /COM,          Variable Legend: A01i000
898 /COM,          c = center of assembly
899 /COM,          h = halfway between center and tube
900 /COM,          s = inside structural stainless tube layer
901 /COM,          t = stainless tube cladding
902 /COM,          g = tube guide
903 /COM,          i = inner barrier of DC
904 /COM,          o = outer barrier of DC
905 /COM,          ## = ID number of assembly (01 is center)
906 /COM,          i = side of assembly toward center of WP
907 /COM,          o = side of assembly toward edge of WP
908 /COM,          000 = profile center down
909 /COM,          045 = profile 45 deg down
910 /COM,          090 = profile center side
911 /COM,          135 = profile 45 deg up
912 /COM,          180 = profile center up
913 /POST26,
914 NUMVAR,30,
915 /COM,
916 /COM,          *****
917 /COM,          * Temperature Profile from center to bottom of WP (0 deg.) *
918 /COM,          *****
919 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,c01i000,
920 NSOL, 3,(NODE(0.0, (0.0-QCELL),0.0)),TEMP,,h01o000,
921 NSOL, 4,(NODE(0.0, (0.0-HCELL),0.0)),TEMP,,s01o000,
922 NSOL, 5,(NODE(0.0, (0.0-SCELL),0.0)),TEMP,,t01o000,
923 NSOL, 6,(NODE(0.0, (0.0-SCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o000,
924 NSOL, 7,(NODE(0.0, (SCELL-(PITCH+TWALL)),0.0)),TEMP,,t06i000,
925 NSOL, 8,(NODE(0.0, (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s06i000,
926 NSOL, 9,(NODE(0.0, (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h06i000,
927 NSOL,10,(NODE(0.0, ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c06i000,
928 NSOL,11,(NODE(0.0,((-1.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h06o000,

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929 NSOL,12,(NODE(0.0,((-1.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s06o000,
930 NSOL,13,(NODE(0.0,(SCCELL-2.0*PITCH-TWALL),0.0)),TEMP,,t13i000,
931 NSOL,14,(NODE(0.0,(HCELL-2.0*PITCH-TWALL),0.0)),TEMP,,s13i000,
932 NSOL,15,(NODE(0.0,(QCELL-2.0*PITCH-TWALL),0.0)),TEMP,,h13i000,
933 NSOL,16,(NODE(0.0,(-2.0*PITCH-TWALL),0.0)),TEMP,,c13i000,
934 NSOL,17,(NODE(0.0,((-2.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h13o000,
935 NSOL,18,(NODE(0.0,((-2.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s13o000,
936 NSOL,19,(NODE(0.0,((-2.0*PITCH)-TWALL-SCCELL),0.0)),TEMP,,t13o000,
937 NSOL,20,(NODE(0.0,(OWALL+IWALL-DCRAD),0.0)),TEMP,,i13i000,
938 NSOL,21,(NODE(0.0,(OWALL-DCRAD),0.0)),TEMP,,i13o000,
939 NSOL,22,(NODE(0.0,(0.0-DCRAD),0.0)),TEMP,,o13o000,
940 PRVAR, 2, 3, 4, 5, 6, 7,
941 PRVAR, 8, 9,10,11,12,13,
942 PRVAR,14,15,16,17,18,19,
943 PRVAR,20,21,22,
944 /COM,
945 /COM, *****
946 /COM, * Temperature Profile from center to lower right (45 deg.) *
947 /COM, *****
948 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,c01i045,
949 NSOL, 3,(NODE( QCELL, (0.0-QCELL),0.0)),TEMP,,h01o045,
950 NSOL, 4,(NODE( HCELL, (0.0-HCELL),0.0)),TEMP,,s01o045,
951 NSOL, 5,(NODE( SCCELL, (0.0-SCCELL),0.0)),TEMP,,t01o045,
952 NSOL, 6,(NODE( (SCCELL+0.5*TWALL),(0.0-SCCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o045,
953 NSOL, 7,(NODE((PITCH+TWALL-SCCELL),(SCCELL-(PITCH+TWALL)),0.0)),TEMP,,t08i045,
954 NSOL, 8,(NODE((PITCH+TWALL-HCELL),(HCELL-(PITCH+TWALL)),0.0)),TEMP,,s08i045,
955 NSOL, 9,(NODE((PITCH+TWALL-QCELL),(QCELL-(PITCH+TWALL)),0.0)),TEMP,,h08i045,
956 NSOL,10,(NODE( (1.0*PITCH+TWALL), ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c08i045,
957 NSOL,11,(NODE((PITCH+TWALL+QCELL),(0.0-PITCH-TWALL-QCELL),0.0)),TEMP,,h08o045,
958 NSOL,12,(NODE((PITCH+TWALL+HCELL),(0.0-PITCH-TWALL-HCELL),0.0)),TEMP,,s08o045,
959 NSOL,13,(NODE( GX24, (0.0-GX24),0.0)),TEMP,,g08i045,
960 NSOL,14,(NODE( GX25, (0.0-GX25),0.0)),TEMP,,g08o045,
961 NSOL,15,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i08i045,
962 NSOL,16,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i08o045,
963 NSOL,17,(NODE( DO45, (-1.0*DO45),0.0)),TEMP,,o08o045,
964 /COM, Add centers of assemblies 11 and 12
965 NSOL,18,(NODE( (2.0*PITCH+TWALL), (-1.0*PITCH-TWALL),0.0)),TEMP,,c11i045,
966 NSOL,19,(NODE( (PITCH+TWALL), (-2.0*PITCH-TWALL),0.0)),TEMP,,c12i045,
967 PRVAR, 2, 3, 4, 5, 6, 7,
968 PRVAR, 8, 9,10,11,12,13,
969 PRVAR,14,15,16,17,18,19,
970 /COM,
971 /COM, *****
972 /COM, * Temperature Profile from center to side of WP (90 deg.) *
973 /COM, *****
974 NSOL, 2,(NODE( 0.0,0.0,0.0)),TEMP,,c01i090,
975 NSOL, 3,(NODE( QCELL,0.0,0.0)),TEMP,,h01o090,
976 NSOL, 4,(NODE( HCELL,0.0,0.0)),TEMP,,s01o090,
977 NSOL, 5,(NODE( SCCELL,0.0,0.0)),TEMP,,t01o090,
978 NSOL, 6,(NODE( (SCCELL+0.5*TWALL),0.0,0.0)),TEMP,,ts1o090,
979 NSOL, 7,(NODE( (PITCH+TWALL-SCCELL),0.0,0.0)),TEMP,,t02i090,
980 NSOL, 8,(NODE( (PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s02i090,
981 NSOL, 9,(NODE( (PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h02i090,
982 NSOL,10,(NODE( (PITCH+TWALL),0.0,0.0)),TEMP,,c02i090,
983 NSOL,11,(NODE( (PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h02o090,
984 NSOL,12,(NODE( (PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s02o090,
985 NSOL,13,(NODE( (PITCH+TWALL+SCCELL),0.0,0.0)),TEMP,,t02i090,
986 NSOL,14,(NODE((2.0*PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s04i090,
987 NSOL,15,(NODE((2.0*PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h04i090,
988 NSOL,16,(NODE( (2.0*PITCH+TWALL),0.0,0.0)),TEMP,,c04i090,
989 NSOL,17,(NODE((2.0*PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h04o090,
990 NSOL,18,(NODE((2.0*PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s04o090,
991 NSOL,19,(NODE((2.0*PITCH+TWALL+SCCELL),0.0,0.0)),TEMP,,t04o090,
992 NSOL,20,(NODE( (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
993 NSOL,21,(NODE( (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
994 NSOL,22,(NODE( DCRAD,0.0,0.0)),TEMP,,o04o090,
995 PRVAR, 2, 3, 4, 5, 6, 7,
996 PRVAR, 8, 9,10,11,12,13,
997 PRVAR,14,15,16,17,18,19,
998 PRVAR,20,21,22,

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999 /COM,
1000 /COM, *****
1001 /COM, * Temperature Profile from center to upper right (135 deg.) *
1002 /COM, *****
1003 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,c01i135,
1004 NSOL, 3, (NODE( QCELL, QCELL, 0.0)), TEMP, ,h01o135,
1005 NSOL, 4, (NODE( HCELL, HCELL, 0.0)), TEMP, ,s01o135,
1006 NSOL, 5, (NODE( SCELL, SCELL, 0.0)), TEMP, ,t01o135,
1007 NSOL, 6, (NODE( (SCELL+0.5*TWALL), (SCELL+0.5*TWALL), 0.0)), TEMP, ,ts1o135,
1008 NSOL, 7, (NODE( (PITCH+TWALL-SCELL), (PITCH+TWALL-SCELL), 0.0)), TEMP, ,t07i135,
1009 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), (PITCH+TWALL-HCELL), 0.0)), TEMP, ,s07i135,
1010 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), (PITCH+TWALL-QCELL), 0.0)), TEMP, ,h07i135,
1011 NSOL, 10, (NODE( (PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c07i135,
1012 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), (PITCH+TWALL+QCELL), 0.0)), TEMP, ,h07o135,
1013 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), (PITCH+TWALL+HCELL), 0.0)), TEMP, ,s07o135,
1014 NSOL, 13, (NODE( GX24, GX24, 0.0)), TEMP, ,g07i135,
1015 NSOL, 14, (NODE( GX25, GX25, 0.0)), TEMP, ,g07o135,
1016 NSOL, 15, (NODE( DI45, DI45, 0.0)), TEMP, ,i07i135,
1017 NSOL, 16, (NODE( DM45, DM45, 0.0)), TEMP, ,i07o135,
1018 NSOL, 17, (NODE( DO45, DO45, 0.0)), TEMP, ,o07o135,
1019 /COM, Add centers of assemblies 9 and 10
1020 NSOL, 18, (NODE( (2.0*PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c09i135,
1021 NSOL, 19, (NODE( (PITCH+TWALL), (2.0*PITCH+TWALL), 0.0)), TEMP, ,c10i135,
1022 PRVAR, 2, 3, 4, 5, 6, 7,
1023 PRVAR, 8, 9, 10, 11, 12, 13,
1024 PRVAR, 14, 15, 16, 17, 18, 19,
1025 /COM,
1026 /COM, *****
1027 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1028 /COM, *****
1029 NSOL, 2, (NODE(0.0, 0.0, 0.0)), TEMP, ,c01i180,
1030 NSOL, 3, (NODE(0.0, QCELL, 0.0)), TEMP, ,h01o180,
1031 NSOL, 4, (NODE(0.0, HCELL, 0.0)), TEMP, ,s01o180,
1032 NSOL, 5, (NODE(0.0, SCELL, 0.0)), TEMP, ,t01o180,
1033 NSOL, 6, (NODE(0.0, (SCELL+0.5*TWALL), 0.0)), TEMP, ,ts1o180,
1034 NSOL, 7, (NODE(0.0, (PITCH+TWALL-SCELL), 0.0)), TEMP, ,t05i180,
1035 NSOL, 8, (NODE(0.0, (PITCH+TWALL-HCELL), 0.0)), TEMP, ,s05i180,
1036 NSOL, 9, (NODE(0.0, (PITCH+TWALL-QCELL), 0.0)), TEMP, ,h05i180,
1037 NSOL, 10, (NODE(0.0, (PITCH+TWALL), 0.0)), TEMP, ,c05i180,
1038 NSOL, 11, (NODE(0.0, (PITCH+TWALL+QCELL), 0.0)), TEMP, ,h05o180,
1039 NSOL, 12, (NODE(0.0, (PITCH+TWALL+HCELL), 0.0)), TEMP, ,s05o180,
1040 NSOL, 13, (NODE(0.0, (PITCH+TWALL+SCELL), 0.0)), TEMP, ,t05i180,
1041 NSOL, 14, (NODE(0.0, (2.0*PITCH+TWALL-HCELL), 0.0)), TEMP, ,s03i180,
1042 NSOL, 15, (NODE(0.0, (2.0*PITCH+TWALL-QCELL), 0.0)), TEMP, ,h03i180,
1043 NSOL, 16, (NODE(0.0, (2.0*PITCH+TWALL), 0.0)), TEMP, ,c03i180,
1044 NSOL, 17, (NODE(0.0, (2.0*PITCH+TWALL+QCELL), 0.0)), TEMP, ,h03o180,
1045 NSOL, 18, (NODE(0.0, (2.0*PITCH+TWALL+HCELL), 0.0)), TEMP, ,s03o180,
1046 NSOL, 19, (NODE(0.0, (2.0*PITCH+TWALL+SCELL), 0.0)), TEMP, ,t03o180,
1047 NSOL, 20, (NODE(0.0, (DCRAD-OWALL-IWALL), 0.0)), TEMP, ,i03i180,
1048 NSOL, 21, (NODE(0.0, (DCRAD-OWALL), 0.0)), TEMP, ,i03o180,
1049 NSOL, 22, (NODE(0.0, DCRAD, 0.0)), TEMP, ,o03o180,
1050 PRVAR, 2, 3, 4, 5, 6, 7,
1051 PRVAR, 8, 9, 10, 11, 12, 13,
1052 PRVAR, 14, 15, 16, 17, 18, 19,
1053 PRVAR, 20, 21, 22,
1054 FINISH
1055 /COM, *****
1056 /COM, End of batch input file
1057 /COM, *****
1058 /EXIT,
1059 /EOF

```

RUN SETUP PROCEDURE FROM FILE= /ansys50a/docu/start.ans

```

/INPUT FILE= /ansys50a/docu/start.ans LINE= 0
*****
ANSYS STARTUP FILE start.ans
*****

```

ABBREVIATION= K1 /pnum,kp ,1,

```

ABBREVIATION= K0      /pnum,kp ,0,
ABBREVIATION= L1      /pnum,line,1,
ABBREVIATION= L0      /pnum,line,0,
ABBREVIATION= A1      /pnum,area,1,
ABBREVIATION= A0      /pnum,area,0,
ABBREVIATION= V1      /pnum,volu,1,
ABBREVIATION= V0      /pnum,volu,0,
ABBREVIATION= N1      /pnum,node,1,
ABBREVIATION= N0      /pnum,node,0,
ABBREVIATION= E1      /pnum,elem,1,
ABBREVIATION= E0      /pnum,elem,0,
ABBREVIATION= M1      /pnum,mat ,1,
ABBREVIATION= M0      /pnum,mat ,0,
ABBREVIATION= R1      /pnum,real,1,
ABBREVIATION= R0      /pnum,real,0,
ABBREVIATION= T1      /pnum,type,1,
ABBREVIATION= T0      /pnum,type,0,
ABBREVIATION= C1      /number,1,
ABBREVIATION= C0      /number,0,
ABBREVIATION= INP     /input,,inp,
ABBREVIATION= X3D     /show,3d,
ABBREVIATION= X11     /show,x11,
ABBREVIATION= VEC     /show,,1,
ABBREVIATION= RAS     /show,,0,
ABBREVIATION= ON      /menu,on,
ABBREVIATION= OFF     /menu,off,
ABBREVIATION= NVP     /config,nvpag,512,
ABBREVIATION= QUIT    /exit,nosav,
XYZ TRIAD DISPLAY SET TO OFF

```

VIEW CONE ANGLE FOR WINDOW 1 25.00

```

*****
END start.ans
*****

```

To start ANSYS menu:

```

type:  x3d  for console
       x11  for X-term

```

type: on

```
*****
*****
ANSYS REVISION 5.0A 6/10/1995
2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz
*****
```

```
*
* File name: ucf21j.inp
* 21 PWR UCF with Low T.L. Disposal Container
* Helium Fill Gas
*
* Material Property file: props01.dat
*
* SNF Conductivity file: pwr15e.parm
* 15x15 Mark-B4 PWR SNF Assembly
*
* SNF Heat Loads file: snf1048.dat
* SNF Type: 10 years old, 48086 Mwd/MTU
*
* Surface Temp. file: c21j5a.parm
* 25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading)
* 5.0 m Diameter Drift with Concrete Invert
* Drift spacing = 67.5 m
* WP c/c spacing = 21.554 m
*
```

Increase the number of database pages from 16 (256) to 32 Mb

NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512

Work space must also be increased (-m 64)

TITLE=

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SI UNITS SPECIFIED

LENGTH = METERS(M)
MASS = KILOGRAMS(KG)
TIME = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT = AMPS

Read in average effective conductivities from SNF model

*** NOTE *** CP= .610 TIME= 00:44:33
Restore ANSYS parameters from file= pwr15e.parm.

/INPUT FILE= pwr15e.parm LINE= 0

PRINTOUT RESUMED BY /GOP
Read in surface temps. from repository model

*** NOTE *** CP= .830 TIME= 00:44:34
Restore ANSYS parameters from file= c21j5a.parm.

/INPUT FILE= c21j5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Define Required Constants:

PARAMETER PI = 3.141593

Define UCF/waste package parameters

(UCF dimensions converted from inches/cm/mm to meters were requi
MIRAD = inner radius of UCF He Backfill shell (m) (NOT
MWALL = UCF He Backfill shell thickness (m) (NOT
DCRAD = disposal container outer radius (m)
OWALL = outer barrier thickness (m)

IWALL = inner barrier thickness (m)
 DCIRD = disposal container inner radius (m)

 GCORN = corner guide width (m)
 GWALL = basket guide thickness (m)
 GLEN1 = side guide 1/3 width (m) (NOT USED)
 GLENT = side guide total width (m) (NOT USED)

 HCELL = 1/2 of basket cell opening (m)
 SWALL = stainless tube thickness (m)
 TWALL = Aluminum thermal shunt thickness (m)
 AWALL = Al/boron tube thickness (m) (NOT USED)

 ACTVL = active fuel length
 PEAKF = assembly heat axial peaking factor

MIRAD=1363.6/1000.0/2.0
 MWALL=1.0000*2.54/100.0

PARAMETER DCRAD = .7645000
 PARAMETER OWALL = .5000000E-01
 PARAMETER IWALL = .2000000E-01
 PARAMETER DCIRD = .6945000

 PARAMETER GCORN = .2335000
 PARAMETER GWALL = .9500000E-02
 GLEN1=9.6170*2.54/100.0
 GLENT=28.866*2.54/100.0

PARAMETER HCELL = .1117500
 PARAMETER SWALL = .5000000E-02
 PARAMETER TWALL = .1000000E-01
 AWALL=0.2500*2.54/100.0

PARAMETER ACTVL = 3.601720
 PARAMETER PEAKF = 1.250000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)
 FUEL = volumetric heat production (W/m3) f(yrs)
 FVOLUME = assy_volume=cell_width^2*active_length

PITCH = basket cell outer width (m)
 QCELL = 1/4 of basket cell opening (m)
 SCELL = 1/2 of basket cell opening+SS wall(m)
 ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)

GX## = x coord. of basket guide or thermal shunt/shell c
 GX## = y coord. of basket guide or thermal shunt/shell c

M145 = x coord. MIRAD at 45 deg. (NOT USED)
 M045 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
 D145 = x coord. DCRAD-OWALL-IWALL at 45 deg.
 D045 = x coord. DCRAD-OWALL at 45 deg.
 D045 = x coord. DCRAD at 45 deg.

ARRAY PARAMETER ASSY DELETED.

SET PARAMETER DIMENSIONS ON ASSY TYPE=TABL DIMENSIONS= 101 1 1

SET PARAMETER DIMENSIONS ON FUEL TYPE=TABL DIMENSIONS= 101 1 1

PARAMETER FVOLUME = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500
ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .1167500

PARAMETER GY22 = .6846165

PARAMETER GX23 = .1267500

PARAMETER GY23 = .6828358

PARAMETER GX24 = .3602500

PARAMETER GY24 = .5937594

PARAMETER GX25 = .3697500

PARAMETER GY25 = .5878905

MI45=MIRAD/SQRT(2.0)
MO45=(MIRAD+MWALL)/SQRT(2.0)

PARAMETER DI45 = .4910857

PARAMETER DM45 = .5052278

PARAMETER DO45 = .5405831

Define Transient Time parameters based upon the following:

Note: 1 year = 3.15576e7 seconds

TM_START = start time (sec)

TMI* = time increment for solution (sec)

TME* = start and stop for time do-loops (sec)

TMTMAX = time of maximum cladding temperature

PARAMETER TM_START = 31.55760

PARAMETER TM10 = 3155760.

PARAMETER TM11 = .3155760E+08

PARAMETER TM110 = .3155760E+09

PARAMETER TM1100 = .3155760E+10

PARAMETER TM11000 = .3155760E+11

PARAMETER TME0 = .2840187E+08

PARAMETER TME1 = .3155763E+08

PARAMETER TME9 = .2840184E+09

PARAMETER TME10 = .3155760E+09

PARAMETER TME50 = .1577880E+10

PARAMETER TME90 = .2840184E+10

PARAMETER TME100 = .3155760E+10

PARAMETER TME1000 = .3155760E+11

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:44:35 JUN 13, 1995 CP= 1.760
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE 1 IS PLANE55 2-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
TWO-DIMENSIONAL MODEL

ELEMENT TYPE 2 IS SOLID70 3-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 7 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 16 IS SHELL57 THERMAL SHELL
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 17 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 18 IS MATRIX50 SUBSTRUCTURE MATRIX
KEYOPT(1-12)= 1 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 19 IS LINK32 RADIATION LINK
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 27 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

File props01.dat describes material properties
and thier reference numbers

READ IN MATERIAL PROPERTY LIBRARY FROM FILE= props01.dat

/INPUT FILE= props01.dat LINE= 0

```
*****
**      ANSYS 5.0 MPC MATERIAL PROPERTY TABLES      **
*****
**      Filename: props01.dat                        **
**      Compiled by R. Bahney III on 1-30-95          **
*****
```

NUMBER	MATERIAL	DESCRIPTION
1	Stainless Steel 316	Basket Structural Support
2	Incaloy 825	Inner Container (resistant)
3	A516 Mild Steel	Outer Container (allowance)
4	UO2 Pellet	SNF Uranium Oxide Pellet
5	Zircaloy 4	SNF Cladding
6	Oxidation Layer	Stably Oxidized Zircaloy Surface
7	Helium	Canister Fill Gas
8	Air	Alternate Fill Gas
9	Nitrogen	Alternate Fill Gas
10	Argon	Alternate Fill Gas
11	Aluminum 6063	Thermal Conductor
12	Copper	Alternate Thermal Conductor
13	Aluminum-Boron	Aluminum Boron Criticality Matl

```
*****
**      Density:      DENS      (kg/m^3)              **
**      Emissivity    EMIS                      **
**      Conductivity: KXX      (W/m/K)              **
**      Specific Heat: C        (J/kg/K)              **
*****
```

Define densities for all materials except gases

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
SLOC= 1 8000.000

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
SLOC= 1 8137.900

PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
SLOC= 1 8131.000

PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
SLOC= 1 10970.00

PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 6 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 11 NUM. POINTS= 1
SLOC= 1 2690.000

PROPERTY TABLE DENS MAT= 12 NUM. POINTS= 1
SLOC= 1 8933.000

PROPERTY TABLE DENS MAT= 13 NUM. POINTS= 1
SLOC= 1 2693.000

Define emissivities for all materials except gases

PROPERTY TABLE EMIS MAT= 1 NUM. POINTS= 1
SLOC= 1 .6000000

PROPERTY TABLE EMIS MAT= 2 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 3 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 4 NUM. POINTS= 1
SLOC= 1 .7900000

PROPERTY TABLE EMIS MAT= 5 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 6 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 11 NUM. POINTS= 1
SLOC= 1 .7000000E-01

PROPERTY TABLE EMIS MAT= 12 NUM. POINTS= 1
SLOC= 1 .5000000

PROPERTY TABLE EMIS MAT= 13 NUM. POINTS= 1
SLOC= 1 .7000000E-01

Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15

PROPERTY TABLE C MAT= 4 NUM. POINTS= 1
SLOC= 1 247.0000

PROPERTY TABLE C MAT= 5 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 6 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 7 NUM. POINTS= 1
SLOC= 1 5193.000

PROPERTY TABLE C MAT= 11 NUM. POINTS= 1
SLOC= 1 900.0000

Define K and C for materials 1, 3

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 21.11000 37.78000 65.56000
93.33000 121.1100 148.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 176.6700 204.4400 232.2200
260.0000 287.7800 315.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 343.3300 371.1100 398.8900
426.6700 454.4400 482.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
SLOC= 19 510.0000 537.7800 565.5600
593.3300 621.1100 648.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
SLOC= 25 676.6700 704.4400 732.2200
760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 6
SLOC= 1 13.33000 13.67000 14.19000 14.54000
15.06000 15.58000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 12

SLOC= 7	15.92000	16.44000	16.96000	17.31000
	17.83000	18.17000		

PROPERTY TABLE KXX	MAT=	1	NUM. POINTS= 18	
SLOC= 13	18.52000		19.04000	19.90000
	20.25000		20.77000	

PROPERTY TABLE KXX	MAT=	1	NUM. POINTS= 24	
SLOC= 19	21.11000		21.46000	22.33000
	22.67000		23.02000	

PROPERTY TABLE KXX	MAT=	1	NUM. POINTS= 30	
SLOC= 25	23.54000		23.88000	24.58000
	24.92000		25.27000	

PROPERTY TABLE C	MAT=	1	NUM. POINTS= 6	
SLOC= 1	481.6800		486.9200	499.3800
	509.9800		520.2900	

PROPERTY TABLE C	MAT=	1	NUM. POINTS= 12	
SLOC= 7	521.0700		527.3800	537.3400
	543.0200		543.3100	

PROPERTY TABLE C	MAT=	1	NUM. POINTS= 18	
SLOC= 13	546.9100		552.1400	557.2200
	557.2500		565.1100	

PROPERTY TABLE C	MAT=	1	NUM. POINTS= 24	
SLOC= 19	565.0100		564.9100	572.1400
	574.9200		574.6800	

PROPERTY TABLE C	MAT=	1	NUM. POINTS= 30	
SLOC= 25	581.6400		581.3000	586.3600
	585.9600		588.3900	

PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 6	
SLOC= 1	40.84000		41.36000	42.23000
	42.23000		42.23000	

PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 12	
SLOC= 7	42.06000		41.88000	41.02000
	40.50000		39.98000	

PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 18	
SLOC= 13	39.29000		38.77000	37.56000
	36.69000		36.17000	

PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 24	
SLOC= 19	35.48000		34.61000	33.23000
	32.36000		31.50000	

PROPERTY TABLE KXX	MAT=	3	NUM. POINTS= 30	
SLOC= 25	30.29000		28.90000	26.48000
	26.13000		27.35000	

PROPERTY TABLE C	MAT=	3	NUM. POINTS= 6	
SLOC= 1	428.7200		444.9500	476.8700
	486.0800		495.6600	

PROPERTY TABLE C	MAT=	3	NUM. POINTS= 12	
SLOC= 7	506.0900		517.0700	536.9900
	543.6300		550.6200	

PROPERTY TABLE C	MAT=	3	NUM. POINTS= 18	
SLOC= 13	562.2100		577.3200	600.5700
	611.3500		629.0900	

PROPERTY TABLE C	MAT=	3	NUM. POINTS= 24	
SLOC= 19	645.3200		665.1200	694.5200
	724.0700		761.9500	

PROPERTY TABLE C MAT= 3 NUM. POINTS= 30
 SLOC= 25 806.3100 888.6000 1095.040 1638.780
 808.6800 736.9000

Define K for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800 565.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 593.3300 621.1100 648.8900
 676.6700 704.4400 732.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 27 ***
 SLOC= 25 760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 6
 SLOC= 1 12.29000 12.63000 13.15000 13.67000
 14.02000 14.54000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 12
 SLOC= 7 14.88000 15.40000 15.75000 16.10000
 16.61000 16.96000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 18
 SLOC= 13 17.31000 17.65000 18.00000 18.52000
 18.86000 19.21000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 24
 SLOC= 19 19.73000 20.08000 20.42000 20.94000
 21.46000 21.98000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 27
 SLOC= 25 22.33000 23.02000 23.54000

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 17 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800

PROPERTY TABLE C MAT= 2 NUM. POINTS= 6
 SLOC= 1 460.6900 477.4200 501.0200 504.6500
 498.1200 520.4500

PROPERTY TABLE C MAT= 2 NUM. POINTS= 12
 SLOC= 7 536.8800 559.8500 576.8300 576.2100

581.6800 598.2000

PROPERTY TABLE C MAT= 2 NUM. POINTS= 17
 SLOC= 13 619.5800 636.7600 654.2000 678.2500
 696.2900

Define K for materials 4, 5, 6

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 .000000E+00 10.00000 20.00000
 30.00000 40.00000 50.00000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 60.00000 70.00000 80.00000
 90.00000 100.0000 110.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 120.0000 130.0000 140.0000
 150.0000 160.0000 170.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 180.0000 190.0000 200.0000
 210.0000 220.0000 230.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
 SLOC= 25 240.0000 250.0000 260.0000
 270.0000 280.0000 290.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 36 ***
 SLOC= 31 300.0000 310.0000 320.0000
 330.0000 340.0000 350.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 42 ***
 SLOC= 37 360.0000 370.0000 380.0000
 390.0000 400.0000 410.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 48 ***
 SLOC= 43 420.0000 430.0000 440.0000
 450.0000 460.0000 470.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 50 ***
 SLOC= 48 480.0000 490.0000 500.0000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 6
 SLOC= 1 8.720000 8.540000 8.360000 8.190000
 8.030000 7.870000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 12
 SLOC= 7 7.720000 7.580000 7.440000 7.310000
 7.180000 7.050000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 18
 SLOC= 13 6.930000 6.820000 6.700000 6.600000
 6.490000 6.390000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 24
 SLOC= 19 6.290000 6.190000 6.100000 6.010000
 5.920000 5.840000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 30
 SLOC= 25 5.760000 5.680000 5.600000 5.520000
 5.450000 5.380000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 36
 SLOC= 31 5.310000 5.240000 5.180000 5.110000
 5.050000 4.990000

PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 42	
SLOC= 37	4.930000	4.870000	4.810000
	4.700000	4.650000	4.760000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 48	
SLOC= 43	4.600000	4.550000	4.500000
	4.400000	4.350000	4.450000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 50	
SLOC= 48	4.310000	4.270000	4.220000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 6	
SLOC= 1	12.29000	12.44000	12.58000
	12.87000	13.01000	12.72000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 12	
SLOC= 7	13.15000	13.28000	13.42000
	13.69000	13.82000	13.55000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 18	
SLOC= 13	13.95000	14.08000	14.21000
	14.46000	14.59000	14.34000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 24	
SLOC= 19	14.72000	14.84000	14.96000
	15.21000	15.33000	15.09000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 30	
SLOC= 25	15.45000	15.57000	15.69000
	15.93000	16.05000	15.81000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 36	
SLOC= 31	16.17000	16.29000	16.40000
	16.64000	16.76000	16.52000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 42	
SLOC= 37	16.88000	16.99000	17.11000
	17.35000	17.46000	17.23000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 48	
SLOC= 43	17.58000	17.70000	17.82000
	18.06000	18.18000	17.94000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 50	
SLOC= 48	18.30000	18.42000	18.54000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 6	
SLOC= 1	1.940000	1.940000	1.940000
	1.940000	1.940000	1.940000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 12	
SLOC= 7	1.940000	1.950000	1.950000
	1.950000	1.950000	1.950000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 18	
SLOC= 13	1.950000	1.950000	1.960000
	1.960000	1.960000	1.960000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 24	
SLOC= 19	1.960000	1.970000	1.970000
	1.970000	1.980000	1.970000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 30	
SLOC= 25	1.980000	1.980000	1.980000
	1.990000	1.990000	1.990000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 36	
SLOC= 31	2.000000	2.000000	2.000000
	2.010000	2.010000	2.010000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 42
 SLOC= 37 2.020000 2.020000 2.020000 2.030000
 2.030000 2.030000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.040000 2.050000
 2.050000 2.060000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 50
 SLOC= 48 2.060000 2.060000 2.070000

Define p, K, C for materials 7, 8, 9, -10

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -13.15000 6.850000 26.85000
 76.85000 126.8500 176.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 226.8500 276.8500 326.8500
 376.8500 426.8500 476.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 15 ***
 SLOC= 13 526.8500 626.8500 726.8500

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1875000 .1750000 .1625000 .1422000
 .1219000 .1097000

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 12
 SLOC= 7 .9750000E-01 .9060000E-01 .8360000E-01 .7670000E-01
 .6970000E-01 .6620000E-01

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 15
 SLOC= 13 .6270000E-01 .5580000E-01 .4880000E-01

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1370000 .1450000 .1520000 .1700000
 .1870000 .2040000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 12
 SLOC= 7 .2200000 .2360000 .2520000 .2640000
 .2780000 .2910000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 15
 SLOC= 13 .3040000 .3300000 .3540000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 6
 SLOC= 1 1.348000 1.254700 1.161400 .9950000
 .8711000 .7740000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 12
 SLOC= 7 .6964000 .6329000 .5804000 .5356000
 .4975000 .4643000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 15
 SLOC= 13 .4354000 .3868000 .3482000

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2500000E-01 .2600000E-01 .3000000E-01
 .3400000E-01 .3700000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12
 SLOC= 7 .4100000E-01 .4400000E-01 .4700000E-01 .5000000E-01
 .5200000E-01 .5500000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 15
 SLOC= 13 .5700000E-01 .6200000E-01 .6700000E-01

PROPERTY TABLE C		MAT=	8	NUM. POINTS=	6	
SLOC=	1	1006.200	1006.600	1007.000	1009.000	
		1014.000	1021.000			
PROPERTY TABLE C		MAT=	8	NUM. POINTS=	12	
SLOC=	7	1030.000	1040.000	1051.000	1063.000	
		1075.000	1087.000			
PROPERTY TABLE C		MAT=	8	NUM. POINTS=	15	
SLOC=	13	1099.000	1121.000	1141.000		
PROPERTY TABLE DENS		MAT=	9	NUM. POINTS=	6	
SLOC=	1	1.303700	1.213500	1.123300	.9625000	
		.8425000	.7485000			
PROPERTY TABLE DENS		MAT=	9	NUM. POINTS=	12	
SLOC=	7	.6739000	.6124000	.5615000	.5214000	
		.4812000	.4512000			
PROPERTY TABLE DENS		MAT=	9	NUM. POINTS=	15	
SLOC=	13	.4211000	.3743000	.3368000		
PROPERTY TABLE KXX		MAT=	9	NUM. POINTS=	6	
SLOC=	1	.2300000E-01	.2400000E-01	.2600000E-01	.2900000E-01	
		.3300000E-01	.3600000E-01			
PROPERTY TABLE KXX		MAT=	9	NUM. POINTS=	12	
SLOC=	7	.3900000E-01	.4200000E-01	.4500000E-01	.4700000E-01	
		.5000000E-01	.5200000E-01			
PROPERTY TABLE KXX		MAT=	9	NUM. POINTS=	15	
SLOC=	13	.5500000E-01	.6000000E-01	.6500000E-01		
PROPERTY TABLE C		MAT=	9	NUM. POINTS=	6	
SLOC=	1	1041.800	1041.400	1041.000	1042.000	
		1045.000	1050.000			
PROPERTY TABLE C		MAT=	9	NUM. POINTS=	12	
SLOC=	7	1056.000	1065.000	1075.000	1086.500	
		1098.000	1159.000			
PROPERTY TABLE C		MAT=	9	NUM. POINTS=	15	
SLOC=	13	1220.000	1146.000	1167.000		
PROPERTY TABLE KXX		MAT=	10	NUM. POINTS=	6	
SLOC=	1	.1700000E-01	.1700000E-01	.1800000E-01	.2100000E-01	
		.2300000E-01	.2500000E-01			
PROPERTY TABLE KXX		MAT=	10	NUM. POINTS=	12	
SLOC=	7	.2700000E-01	.2800000E-01	.3000000E-01	.3200000E-01	
		.3400000E-01	.3600000E-01			
PROPERTY TABLE KXX		MAT=	10	NUM. POINTS=	15	
SLOC=	13	.3700000E-01	.4100000E-01	.4400000E-01		

Define K and C for material 12

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC=	1	-73.15000	26.85000	126.8500
		326.8500	526.8500	726.8500

PROPERTY TABLE KXX		MAT=	12	NUM. POINTS=	6	
SLOC=	1	413.0000	401.0000	393.0000	379.0000	
		366.0000	352.0000			

PROPERTY TABLE C		MAT=	12	NUM. POINTS=	6	
SLOC=	1	356.0000	385.0000	397.0000	417.0000	

433.0000 451.0000

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***
 SLOC= 1 23.00000 50.00000 100.0000
 150.0000 200.0000

PROPERTY TABLE KXX MAT= 13 NUM. POINTS= 5
 SLOC= 1 182.5600 190.1700 199.2200 202.9100
 203.7200

PROPERTY TABLE C MAT= 13 NUM. POINTS= 5
 SLOC= 1 868.0000 903.0000 946.0000 976.0000
 998.0000

 ** End of Material Property List **

 Read in single assembly heat loads
 Calculate the volumetric heat generation
 (Assembly time is in years, FUEL is in seconds)

/INPUT FILE= snf1048.dat LINE= 0

 ** History of SNF Assembly Heat Generation Rates **
 ** Output of PHIA, SCSI: B00000000-01717-1200-3000X Rev.008 **
 **
 ** Executable File Name: PHIA00B.EXE **
 ** Output File Name: snf1048.dat **
 ** Execution Date: 02/24/95 **
 ** Start Age (years): 10.0 **
 ** Decay Period (years): 10000 **
 ** Enrichment (percent): 4.20 **
 ** Burnup (MWd/MTU): 48086 **
 ** Assembly Type: PWR **
 ** SNF U Mass (MTU/assy): 0.464 **
 **
 ** ASSY(#,1) is the SNF assembly heat in Watts. **
 ** ASSY(#,0) is the time post emplacement in years. **

PARAMETER ASSY(1,1) =	850.0100 848.4600	849.6200 848.0800	849.2300	848.8500
PARAMETER ASSY(7,1) =	847.6900 846.1600	847.3100 844.2600	846.9300	846.5400
PARAMETER ASSY(13,1) =	842.3700 834.9500	840.5000 833.1300	838.6300	836.7900
PARAMETER ASSY(19,1) =	831.3200 824.2000	829.5200 822.4500	827.7400	825.9600
PARAMETER ASSY(25,1) =	820.7200 813.8800	818.9900 799.0100	817.2800	815.5700
PARAMETER ASSY(31,1) =	785.0300 738.5700	772.2000 729.5500	760.0600	749.0400
PARAMETER ASSY(37,1) =	720.9500 683.8600	710.2700 676.0300	700.0700	691.8000
PARAMETER ASSY(43,1) =	668.5000 642.5500	661.1300 580.1800	654.0400	648.1900
PARAMETER ASSY(49,1) =	529.8600 380.7000	484.5200 352.1900	445.3600	410.5100

PARAMETER ASSY(55,1) =	327.7800 252.6500	305.8800 238.3100	286.2200	268.5700
PARAMETER ASSY(61,1) =	225.3500 185.0400	213.6600 130.6600	203.8500	193.7500
PARAMETER ASSY(67,1) =	105.0700 66.61000	90.10000 61.74000	80.32000	72.66000
PARAMETER ASSY(73,1) =	57.58000 44.98000	53.71000 42.50000	50.41000	47.54000
PARAMETER ASSY(79,1) =	40.31000 33.52000	38.35000 23.16000	36.59000	35.00000
PARAMETER ASSY(85,1) =	18.32000 12.84000	15.77000 12.37000	14.37000	13.53000
PARAMETER ASSY(91,1) =	11.96000 10.32000	11.47000 9.970000	11.04000	10.66000
PARAMETER ASSY(97,1) =	9.650000 8.610000	9.360000	9.090000	8.840000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01 .1000000	.7000000E-01 .1500000	.8000000E-01	.9000000E-01
PARAMETER ASSY(13,0) =	.2000000 .4000000	.2500000 .4500000	.3000000	.3500000
PARAMETER ASSY(19,0) =	.5000000 .7000000	.5500000 .7500000	.6000000	.6500000
PARAMETER ASSY(25,0) =	.8000000 1.000000	.8500000 1.500000	.9000000	.9500000
PARAMETER ASSY(31,0) =	2.000000 4.000000	2.500000 4.500000	3.000000	3.500000
PARAMETER ASSY(37,0) =	5.000000 7.000000	5.500000 7.500000	6.000000	6.500000
PARAMETER ASSY(43,0) =	8.000000 10.00000	8.500000 15.00000	9.000000	9.500000
PARAMETER ASSY(49,0) =	20.00000 40.00000	25.00000 45.00000	30.00000	35.00000
PARAMETER ASSY(55,0) =	50.00000 70.00000	55.00000 75.00000	60.00000	65.00000
PARAMETER ASSY(61,0) =	80.00000 100.0000	85.00000 150.0000	90.00000	95.00000
PARAMETER ASSY(67,0) =	200.0000 400.0000	250.0000 450.0000	300.0000	350.0000
PARAMETER ASSY(73,0) =	500.0000 700.0000	550.0000 750.0000	600.0000	650.0000
PARAMETER ASSY(79,0) =	800.0000 1000.000	850.0000 1500.000	900.0000	950.0000
PARAMETER ASSY(85,0) =	2000.000 4000.000	2500.000 4500.000	3000.000	3500.000

PARAMETER ASSY(91,0) = 5000.000 5500.000 6000.000 6500.000
7000.000 7500.000
PARAMETER ASSY(97,0) = 8000.000 8500.000 9000.000 9500.000
10000.00

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)
INPUT MATRIX= ASSY(1,0)
INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN
FUEL(1) = COPY ASSY(1)
SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000
VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity
Density: DENS (kg/m^3)
Conductivity: KXX (W/m/K)
Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
SLOC= 1 274.0000
Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1
SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2
SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Define new material 15 for low thermal loading
outer barrier of 70/30 Copper Nickel (C71500)
Density: DENS (kg/m³)
Conductivity: KXX (W/m/K)
Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***

SLOC= 1 .0000000E+00
Density (lb/in³ converted to kg/m³)

PROPERTY TABLE DENS MAT= 15 NUM. POINTS= 1
SLOC= 1 8940.640
Specific Heat (Btu/lb/F converted to J/kg/K)

PROPERTY TABLE C MAT= 15 NUM. POINTS= 1
SLOC= 1 376.7898
Conductivity (Btu/hr/ft/F converted to W/m/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***

SLOC= 1 20.00000 100.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 4 ***

SLOC= 3 200.0000 300.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC= 5 400.0000 500.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 8 ***

SLOC= 7 600.0000 700.0000

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 2
SLOC= 1 29.42190 29.24883

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 4
SLOC= 3 34.09479 38.59461

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 6
SLOC= 5 43.09443 48.11346

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 8
SLOC= 7 53.13249 58.15152

Construct geometry for Disposal Container

Define center and axis keypoints for waste package
Also, create placeholder keypoints and lines
(K's 1,2,3,4,5,6,7,8)
(L's 1,2,3,4)

KEYPOINT 1 X,Y,Z= .000000E+00 .000000E+00 .000000E+00 IN CSYS= 0

KEYPOINT	2	X,Y,Z=	.000000E+00	.000000E+00	1.00000	IN CSYS= 0
KEYPOINT	3	X,Y,Z=	.000000E+00	.000000E+00	1.30000	IN CSYS= 0
KEYPOINT	4	X,Y,Z=	.000000E+00	.000000E+00	1.40000	IN CSYS= 0
KEYPOINT	5	X,Y,Z=	.000000E+00	.000000E+00	1.50000	IN CSYS= 0
KEYPOINT	6	X,Y,Z=	.000000E+00	.000000E+00	1.60000	IN CSYS= 0
KEYPOINT	7	X,Y,Z=	.000000E+00	.000000E+00	1.70000	IN CSYS= 0
KEYPOINT	8	X,Y,Z=	.000000E+00	.000000E+00	1.80000	IN CSYS= 0

LINE CONNECTS KEYPOINTS		3	4			
LINE NO.=	1	KP1=	3	TAN1=	.0000	.0000 -1.0000
		KP2=	4	TAN2=	.0000	.0000 1.0000

LINE CONNECTS KEYPOINTS		4	5			
LINE NO.=	2	KP1=	4	TAN1=	.0000	.0000 -1.0000
		KP2=	5	TAN2=	.0000	.0000 1.0000

LINE CONNECTS KEYPOINTS		5	6			
LINE NO.=	3	KP1=	5	TAN1=	.0000	.0000 -1.0000
		KP2=	6	TAN2=	.0000	.0000 1.0000

LINE CONNECTS KEYPOINTS		6	7			
LINE NO.=	4	KP1=	6	TAN1=	.0000	.0000 -1.0000
		KP2=	7	TAN2=	.0000	.0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT	9	X,Y,Z=	.000000E+00	-.764500	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.764500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.764500	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.714500	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.714500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.714500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		10	13			
LINE NO.=	5	KP1=	10	TAN1=	1.0000	.0000 .0000
		KP2=	13	TAN2=	-1.0000	.0000 .0000

ARC BETWEEN KEYPOINTS		10 AND	9	ORIENTATION KEYPOINT=	1
RADIUS=		.76450			
LINE NO.=	6	KP1=	10	TAN1=	.0000 1.0000 .0000
		KP2=	9	TAN2=	-1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS		11 AND	10	ORIENTATION KEYPOINT=	1
RADIUS=		.76450			
LINE NO.=	7	KP1=	11	TAN1=	-1.0000 .0000 .0000
		KP2=	10	TAN2=	.0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS		13 AND	12	ORIENTATION KEYPOINT=	1
RADIUS=		.71450			
LINE NO.=	8	KP1=	13	TAN1=	.0000 1.0000 .0000
		KP2=	12	TAN2=	-1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS		14 AND	13	ORIENTATION KEYPOINT=	1
RADIUS=		.71450			
LINE NO.=	9	KP1=	14	TAN1=	-1.0000 .0000 .0000
		KP2=	13	TAN2=	.0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT	15	X,Y,Z=	.000000E+00	.694500	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.116750	.684616	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.126750	.682836	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.360250	.593759	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.369750	.587890	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.587890	.369750	.000000E+00	IN CSYS= 0
KEYPOINT	21	X,Y,Z=	.593759	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.682836	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.684616	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.694500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.684616	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.682836	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.593759	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.587890	-.369750	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.369750	-.587890	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.360250	-.593759	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.126750	-.682836	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.116750	-.684616	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.000000E+00	-.694500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 15 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS	16 AND	15	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	13	KP1=	16 TAN1=	.9858 -.1681 .0000
		KP2=	15 TAN2=	-1.0000 .0000 .0000
ARC BETWEEN KEYPOINTS	17 AND	16	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	14	KP1=	17 TAN1=	.9832 -.1825 .0000
		KP2=	16 TAN2=	-.9858 .1681 .0000
ARC BETWEEN KEYPOINTS	18 AND	17	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	15	KP1=	18 TAN1=	.8549 -.5187 .0000
		KP2=	17 TAN2=	-.9832 .1825 .0000
ARC BETWEEN KEYPOINTS	19 AND	18	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	16	KP1=	19 TAN1=	.8465 -.5324 .0000
		KP2=	18 TAN2=	-.8549 .5187 .0000
ARC BETWEEN KEYPOINTS	20 AND	19	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	17	KP1=	20 TAN1=	.5324 -.8465 .0000
		KP2=	19 TAN2=	-.8465 .5324 .0000
ARC BETWEEN KEYPOINTS	21 AND	20	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	18	KP1=	21 TAN1=	.5187 -.8549 .0000
		KP2=	20 TAN2=	-.5324 .8465 .0000
ARC BETWEEN KEYPOINTS	22 AND	21	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	19	KP1=	22 TAN1=	.1825 -.9832 .0000
		KP2=	21 TAN2=	-.5187 .8549 .0000
ARC BETWEEN KEYPOINTS	23 AND	22	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	20	KP1=	23 TAN1=	.1681 -.9858 .0000
		KP2=	22 TAN2=	-.1825 .9832 .0000
ARC BETWEEN KEYPOINTS	24 AND	23	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	21	KP1=	24 TAN1=	.0000 -1.0000 .0000
		KP2=	23 TAN2=	-.1681 .9858 .0000
ARC BETWEEN KEYPOINTS	25 AND	24	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	22	KP1=	25 TAN1=	-.1681 -.9858 .0000
		KP2=	24 TAN2=	.0000 1.0000 .0000
ARC BETWEEN KEYPOINTS	26 AND	25	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	23	KP1=	26 TAN1=	-.1825 -.9832 .0000
		KP2=	25 TAN2=	.1681 .9858 .0000
ARC BETWEEN KEYPOINTS	27 AND	26	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	24	KP1=	27 TAN1=	-.5187 -.8549 .0000
		KP2=	26 TAN2=	.1825 .9832 .0000
ARC BETWEEN KEYPOINTS	28 AND	27	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	25	KP1=	28 TAN1=	-.5324 -.8465 .0000
		KP2=	27 TAN2=	.5187 .8549 .0000
ARC BETWEEN KEYPOINTS	29 AND	28	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	26	KP1=	29 TAN1=	-.8465 -.5324 .0000
		KP2=	28 TAN2=	.5324 .8465 .0000

ARC BETWEEN KEYPOINTS 30 AND 29 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 27 KP1= 30 TAN1= -.8549 -.5187 .0000
 KP2= 29 TAN2= .8465 .5324 .0000

ARC BETWEEN KEYPOINTS 31 AND 30 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 28 KP1= 31 TAN1= -.9832 -.1825 .0000
 KP2= 30 TAN2= .8549 .5187 .0000

ARC BETWEEN KEYPOINTS 32 AND 31 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 29 KP1= 32 TAN1= -.9858 -.1681 .0000
 KP2= 31 TAN2= .9832 .1825 .0000

ARC BETWEEN KEYPOINTS 33 AND 32 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 30 KP1= 33 TAN1= -1.0000 .0000 .0000
 KP2= 32 TAN2= .9858 .1681 .0000

LINE CONNECTS KEYPOINTS 33 12
 LINE NO.= 31 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 13
 LINE NO.= 32 KP1= 24 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 21 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 9 TO 9 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 9)

AREA NUMBER = 3

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 22 TO 31 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 8 TO 8 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 8)

AREA NUMBER = 4

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 32 STEP 1

32 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides
(K's 34,35,36,37)
(L's 33,34,35,36,37,38,39,40,41,42)
(A's 5,6,7,8,9,10)

top guide

KEYPOINT 34 X,Y,Z= .360250 .360250 .000000E+00 IN CSYS= 0

KEYPOINT 35 X,Y,Z= .369750 .369750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 19 35
LINE NO.= 33 KP1= 19 TAN1= .0000 1.0000 .0000
KP2= 35 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 35 20
LINE NO.= 34 KP1= 35 TAN1= -1.0000 .0000 .0000
KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 21 34
LINE NO.= 35 KP1= 21 TAN1= 1.0000 .0000 .0000
KP2= 34 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 18
LINE NO.= 36 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 18 TAN2= .0000 1.0000 .0000

bottom guide

KEYPOINT 36 X,Y,Z= .369750 -.369750 .000000E+00 IN CSYS= 0

KEYPOINT 37 X,Y,Z= .360250 -.360250 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 28 36
LINE NO.= 37 KP1= 28 TAN1= 1.0000 .0000 .0000
KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 36 29
LINE NO.= 38 KP1= 36 TAN1= .0000 1.0000 .0000
KP2= 29 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 37
LINE NO.= 39 KP1= 30 TAN1= .0000 -1.0000 .0000
KP2= 37 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 37 27
LINE NO.= 40 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 27 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 35
LINE NO.= 41 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 35 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 37 36
LINE NO.= 42 KP1= 37 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES
LINE LIST = 17 33 34
(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES
LINE LIST = 26 37 38

(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 6
Guide steel

DEFINE AREA BY LIST OF LINES

LINE LIST = 16 33 41 36
(TRAVERSED IN SAME DIRECTION AS LINE 16)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES

LINE LIST = 18 35 41 34
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 37 42 40
(TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 39 42 38
(TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 10

Define thermal shunts

(K's 38,39,40,41,42,43,44,45,46,47,48,49,50)

(51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)

(L's 43,44,45,46,47,48,49)

(50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)

(67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)

(84,85,86,87,88,89,90)

(A's 11 - 27)

top horizontal thermal shunt

KEYPOINT	38	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.000000E+00	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.116750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.126750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	45	X,Y,Z=	.360250	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	46	X,Y,Z=	.593750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	47	X,Y,Z=	.593750	.126750	.000000E+00	IN CSYS= 0

bottom horizontal thermal shunt

KEYPOINT	48	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.000000E+00	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.116750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	52	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0

KEYPOINT	53	X,Y,Z=	.126750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.360250	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	56	X,Y,Z=	.593750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.593750	-.126750	.000000E+00	IN CSYS= 0
		right vertical thermal shunt				
KEYPOINT	58	X,Y,Z=	.116750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.126750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	60	X,Y,Z=	.116750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.126750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.116750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.126750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.116750	-.593750	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.126750	-.593750	.000000E+00	IN CSYS= 0
		Lines; shunt widths, top, bottom, then vertical: (43-60)				

LINE CONNECTS KEYPOINTS	38	39			
LINE NO.= 43	KP1= 38	TAN1=	.0000	-1.0000	.0000
	KP2= 39	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	40	41			
LINE NO.= 44	KP1= 40	TAN1=	.0000	-1.0000	.0000
	KP2= 41	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	42	43			
LINE NO.= 45	KP1= 42	TAN1=	.0000	-1.0000	.0000
	KP2= 43	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	44	45			
LINE NO.= 46	KP1= 44	TAN1=	.0000	-1.0000	.0000
	KP2= 45	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	46	47			
LINE NO.= 47	KP1= 46	TAN1=	.0000	-1.0000	.0000
	KP2= 47	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	48	49			
LINE NO.= 48	KP1= 48	TAN1=	.0000	1.0000	.0000
	KP2= 49	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	50	51			
LINE NO.= 49	KP1= 50	TAN1=	.0000	1.0000	.0000
	KP2= 51	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	52	53			
LINE NO.= 50	KP1= 52	TAN1=	.0000	1.0000	.0000
	KP2= 53	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	54	55			
LINE NO.= 51	KP1= 54	TAN1=	.0000	1.0000	.0000
	KP2= 55	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	56	57			
LINE NO.= 52	KP1= 56	TAN1=	.0000	1.0000	.0000
	KP2= 57	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	58	59			
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LINE NO.=	53	KP1=	58	TAN1=	-1.0000	.0000	.0000
		KP2=	59	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			60	61			
LINE NO.=	54	KP1=	60	TAN1=	-1.0000	.0000	.0000
		KP2=	61	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			41	43			
LINE NO.=	55	KP1=	41	TAN1=	-1.0000	.0000	.0000
		KP2=	43	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			40	42			
LINE NO.=	56	KP1=	40	TAN1=	-1.0000	.0000	.0000
		KP2=	42	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			50	52			
LINE NO.=	57	KP1=	50	TAN1=	-1.0000	.0000	.0000
		KP2=	52	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			51	53			
LINE NO.=	58	KP1=	51	TAN1=	-1.0000	.0000	.0000
		KP2=	53	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			62	63			
LINE NO.=	59	KP1=	62	TAN1=	-1.0000	.0000	.0000
		KP2=	63	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			64	65			
LINE NO.=	60	KP1=	64	TAN1=	-1.0000	.0000	.0000
		KP2=	65	TAN2=	1.0000	.0000	.0000
Lines; shunt edges, top, bottom, then vertical: (61-90)							
LINE CONNECTS KEYPOINTS			39	41			
LINE NO.=	61	KP1=	39	TAN1=	-1.0000	.0000	.0000
		KP2=	41	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			40	38			
LINE NO.=	62	KP1=	40	TAN1=	1.0000	.0000	.0000
		KP2=	38	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			43	45			
LINE NO.=	63	KP1=	43	TAN1=	-1.0000	.0000	.0000
		KP2=	45	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			44	42			
LINE NO.=	64	KP1=	44	TAN1=	1.0000	.0000	.0000
		KP2=	42	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			45	47			
LINE NO.=	65	KP1=	45	TAN1=	-1.0000	.0000	.0000
		KP2=	47	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			46	44			
LINE NO.=	66	KP1=	46	TAN1=	1.0000	.0000	.0000
		KP2=	44	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			47	22			
LINE NO.=	67	KP1=	47	TAN1=	-1.0000	.0000	.0000
		KP2=	22	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			23	46			
LINE NO.=	68	KP1=	23	TAN1=	1.0000	.0000	.0000
		KP2=	46	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			48	50			
LINE NO.=	69	KP1=	48	TAN1=	-1.0000	.0000	.0000
		KP2=	50	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS			51	49			
LINE NO.=	70	KP1=	51	TAN1=	1.0000	.0000	.0000

	KP2=	49	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		52	54			
LINE NO.= 71	KP1=	52	TAN1=	-1.0000	.0000	.0000
	KP2=	54	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		55	53			
LINE NO.= 72	KP1=	55	TAN1=	1.0000	.0000	.0000
	KP2=	53	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		54	56			
LINE NO.= 73	KP1=	54	TAN1=	-1.0000	.0000	.0000
	KP2=	56	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		57	55			
LINE NO.= 74	KP1=	57	TAN1=	1.0000	.0000	.0000
	KP2=	55	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		56	25			
LINE NO.= 75	KP1=	56	TAN1=	-1.0000	.0000	.0000
	KP2=	25	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		26	57			
LINE NO.= 76	KP1=	26	TAN1=	1.0000	.0000	.0000
	KP2=	57	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		58	16			
LINE NO.= 77	KP1=	58	TAN1=	.0000	-1.0000	.0000
	KP2=	16	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		17	59			
LINE NO.= 78	KP1=	17	TAN1=	.0000	1.0000	.0000
	KP2=	59	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		60	58			
LINE NO.= 79	KP1=	60	TAN1=	.0000	-1.0000	.0000
	KP2=	58	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		59	61			
LINE NO.= 80	KP1=	59	TAN1=	.0000	1.0000	.0000
	KP2=	61	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		41	60			
LINE NO.= 81	KP1=	41	TAN1=	.0000	-1.0000	.0000
	KP2=	60	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		61	43			
LINE NO.= 82	KP1=	61	TAN1=	.0000	1.0000	.0000
	KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		50	40			
LINE NO.= 83	KP1=	50	TAN1=	.0000	-1.0000	.0000
	KP2=	40	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		42	52			
LINE NO.= 84	KP1=	42	TAN1=	.0000	1.0000	.0000
	KP2=	52	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		62	51			
LINE NO.= 85	KP1=	62	TAN1=	.0000	-1.0000	.0000
	KP2=	51	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		53	63			
LINE NO.= 86	KP1=	53	TAN1=	.0000	1.0000	.0000
	KP2=	63	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		64	62			
LINE NO.= 87	KP1=	64	TAN1=	.0000	-1.0000	.0000
	KP2=	62	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS 63 65
 LINE NO.= 88 KP1= 63 TAN1= .0000 1.0000 .0000
 KP2= 65 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 32 64
 LINE NO.= 89 KP1= 32 TAN1= .0000 -1.0000 .0000
 KP2= 64 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 65 31
 LINE NO.= 90 KP1= 65 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000
 define areas for thermal shunts

DEFINE AREA BY LIST OF LINES
 LINE LIST = 43 61 44 62
 (TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES
 LINE LIST = 44 55 45 56
 (TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES
 LINE LIST = 45 63 46 64
 (TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES
 LINE LIST = 46 65 47 66
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES
 LINE LIST = 47 67 20 68
 (TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES
 LINE LIST = 48 69 49 70
 (TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES
 LINE LIST = 49 57 50 58
 (TRAVERSED IN SAME DIRECTION AS LINE 49)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES
 LINE LIST = 50 71 51 72
 (TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES
 LINE LIST = 51 73 52 74
 (TRAVERSED IN SAME DIRECTION AS LINE 51)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES
 LINE LIST = 52 75 23 76
 (TRAVERSED IN SAME DIRECTION AS LINE 52)

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AREA NUMBER =      20
DEFINE AREA BY LIST OF LINES
  LINE LIST =      14  77  53  78
  (TRAVERSED IN SAME DIRECTION AS LINE      14)

AREA NUMBER =      21
DEFINE AREA BY LIST OF LINES
  LINE LIST =      53  79  54  80
  (TRAVERSED IN SAME DIRECTION AS LINE      53)

AREA NUMBER =      22
DEFINE AREA BY LIST OF LINES
  LINE LIST =      54  81  55  82
  (TRAVERSED IN SAME DIRECTION AS LINE      54)

AREA NUMBER =      23
DEFINE AREA BY LIST OF LINES
  LINE LIST =      56  83  57  84
  (TRAVERSED IN SAME DIRECTION AS LINE      56)

AREA NUMBER =      24
DEFINE AREA BY LIST OF LINES
  LINE LIST =      58  85  59  86
  (TRAVERSED IN SAME DIRECTION AS LINE      58)

AREA NUMBER =      25
DEFINE AREA BY LIST OF LINES
  LINE LIST =      59  87  60  88
  (TRAVERSED IN SAME DIRECTION AS LINE      59)

AREA NUMBER =      26
DEFINE AREA BY LIST OF LINES
  LINE LIST =      60  89  29  90
  (TRAVERSED IN SAME DIRECTION AS LINE      60)

AREA NUMBER =      27
*****
  Define shell gaps at the exterior of the tube array
  (K's 66 - 67)
  (L's 91 - 99)
  (A's 28 - 34)

KEYPOINT    66  X,Y,Z= .000000E+00 .593750 .000000E+00 IN CSYS= 0
KEYPOINT    67  X,Y,Z= .000000E+00 -.593750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS      15  66
  LINE NO.=   91  KP1=   15  TAN1= .0000  1.0000 .0000
               KP2=   66  TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS      66  58
  LINE NO.=   92  KP1=   66  TAN1= -1.0000 .0000 .0000
               KP2=   58  TAN2=  1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS      59  18
  LINE NO.=   93  KP1=   59  TAN1= -1.0000 .0000 .0000
               KP2=   18  TAN2=  1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS      21  47
  LINE NO.=   94  KP1=   21  TAN1= .0000  1.0000 .0000

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	KP2=	47	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		46	56			
LINE NO.= 95	KP1=	46	TAN1=	.0000	1.0000	.0000
	KP2=	56	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		57	27			
LINE NO.= 96	KP1=	57	TAN1=	.0000	1.0000	.0000
	KP2=	27	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		30	65			
LINE NO.= 97	KP1=	30	TAN1=	1.0000	.0000	.0000
	KP2=	65	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		64	67			
LINE NO.= 98	KP1=	64	TAN1=	1.0000	.0000	.0000
	KP2=	67	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		67	33			
LINE NO.= 99	KP1=	67	TAN1=	.0000	1.0000	.0000
	KP2=	33	TAN2=	.0000	-1.0000	.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 13 91 92 77
(TRAVERSED IN SAME DIRECTION AS LINE 13)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES

LINE LIST = 15 78 93
(TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES

LINE LIST = 19 94 67
(TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES

LINE LIST = 21 68 95 75 22
(TRAVERSED IN SAME DIRECTION AS LINE 21)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES

LINE LIST = 24 76 96
(TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES

LINE LIST = 28 97 90
(TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES

LINE LIST = 30 89 98 99
(TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 34

Define center half-tube

(K's 68-75)

(L's 100-110)

(A's 35-38)

KEYPOINT	68	X,Y,Z=	.000000E+00	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.111750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.000000E+00	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.111750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	72	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		70	68			
LINE NO.=	100	KP1=	70	TAN1=	.0000	-1.0000 .0000
		KP2=	68	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		70	74			
LINE NO.=	101	KP1=	70	TAN1=	.0000	1.0000 .0000
		KP2=	74	TAN2=	.0000	-1.0000 .0000

LINE CONNECTS KEYPOINTS		68	72			
LINE NO.=	102	KP1=	68	TAN1=	.0000	-1.0000 .0000
		KP2=	72	TAN2=	.0000	1.0000 .0000

LINE CONNECTS KEYPOINTS		71	75			
LINE NO.=	103	KP1=	71	TAN1=	-.7071	.7071 .0000
		KP2=	75	TAN2=	.7071	-.7071 .0000

LINE CONNECTS KEYPOINTS		69	73			
LINE NO.=	104	KP1=	69	TAN1=	-.7071	-.7071 .0000
		KP2=	73	TAN2=	.7071	.7071 .0000

LINE CONNECTS KEYPOINTS		75	74			
LINE NO.=	105	KP1=	75	TAN1=	1.0000	.0000 .0000
		KP2=	74	TAN2=	-1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		71	70			
LINE NO.=	106	KP1=	71	TAN1=	1.0000	.0000 .0000
		KP2=	70	TAN2=	-1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		68	69			
LINE NO.=	107	KP1=	68	TAN1=	-1.0000	.0000 .0000
		KP2=	69	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		72	73			
LINE NO.=	108	KP1=	72	TAN1=	-1.0000	.0000 .0000
		KP2=	73	TAN2=	1.0000	.0000 .0000

LINE CONNECTS KEYPOINTS		69	71			
LINE NO.=	109	KP1=	69	TAN1=	.0000	1.0000 .0000
		KP2=	71	TAN2=	.0000	-1.0000 .0000

LINE CONNECTS KEYPOINTS		73	75			
LINE NO.=	110	KP1=	73	TAN1=	.0000	1.0000 .0000
		KP2=	75	TAN2=	.0000	-1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 100 106 109 107
 (TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES
 LINE LIST = 101 105 103 106
 (TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 109 103 110 104
(TRAVERSED IN SAME DIRECTION AS LINE 109)

AREA NUMBER = 37

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 107 104 108
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 38

Define center full-tube

(K's 76 - 83)

(L's 111 - 122)

(A's 39 - 43)

KEYPOINT	76	X,Y,Z=	.131750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.355250	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	78	X,Y,Z=	.131750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	79	X,Y,Z=	.355250	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	80	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	81	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	82	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	83	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	78	82
LINE NO.= 111	KP1= 78	TAN1= .7071 .7071 .0000
	KP2= 82	TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	76	80
LINE NO.= 112	KP1= 76	TAN1= .7071 -.7071 .0000
	KP2= 80	TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS	79	83
LINE NO.= 113	KP1= 79	TAN1= -.7071 .7071 .0000
	KP2= 83	TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	77	81
LINE NO.= 114	KP1= 77	TAN1= -.7071 -.7071 .0000
	KP2= 81	TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS	83	82
LINE NO.= 115	KP1= 83	TAN1= 1.0000 .0000 .0000
	KP2= 82	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	79	78
LINE NO.= 116	KP1= 79	TAN1= 1.0000 .0000 .0000
	KP2= 78	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	76	77
LINE NO.= 117	KP1= 76	TAN1= -1.0000 .0000 .0000
	KP2= 77	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	80	81
LINE NO.= 118	KP1= 80	TAN1= -1.0000 .0000 .0000
	KP2= 81	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	82	80
LINE NO.= 119	KP1= 82	TAN1= .0000 -1.0000 .0000
	KP2= 80	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 78 76
 LINE NO.= 120 KP1= 78 TAN1= .0000 -1.0000 .0000
 KP2= 76 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 77 79
 LINE NO.= 121 KP1= 77 TAN1= .0000 1.0000 .0000
 KP2= 79 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 81 83
 LINE NO.= 122 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 83 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 120 116 121 117
 (TRAVERSED IN SAME DIRECTION AS LINE 120)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES
 LINE LIST = 119 111 120 112
 (TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES
 LINE LIST = 111 115 113 116
 (TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES
 LINE LIST = 121 113 122 114
 (TRAVERSED IN SAME DIRECTION AS LINE 121)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES
 LINE LIST = 112 117 114 118
 (TRAVERSED IN SAME DIRECTION AS LINE 112)

AREA NUMBER = 43

Set element shapes and sizes for tubes
 14x14 mesh in fuel with 2
 divisions per tube layer

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 115 TO 122 STEP 1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 109 TO 110 STEP 1

10 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 100 TO 100 STEP 1

11 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 14, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 105 TO 108 STEP 1
4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 101 TO 104 STEP 1
4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 111 TO 114 STEP 1
8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 122 STEP 1
122 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 35 TO 35 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 120
MAXIMUM ELEMENT NUMBER = 98

GENERATE NODES AND ELEMENTS
IN AREAS 39 TO 39 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 345
MAXIMUM ELEMENT NUMBER = 294

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 36 TO 38 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 403
MAXIMUM ELEMENT NUMBER = 350

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 515
MAXIMUM ELEMENT NUMBER = 462

Copy tube mesh

center half tube above and below
(A's 44 - 47)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 693
 MAXIMUM ELEMENT NUMBER = 616
 (A's 48 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 871
 MAXIMUM ELEMENT NUMBER = 770
 (A's 52 - 55)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1049
 MAXIMUM ELEMENT NUMBER = 924
 (A's 56 - 59)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1227
 MAXIMUM ELEMENT NUMBER = 1078

center full tube side, above, and below
 (A's 60 - 64 = Side)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1564
 MAXIMUM ELEMENT NUMBER = 1386
 (A's 65 - 69 = up 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1901
 MAXIMUM ELEMENT NUMBER = 1694
 (A's 70 - 74 = up 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2238
 MAXIMUM ELEMENT NUMBER = 2002
 (A's 75 - 79 = down 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2575
 MAXIMUM ELEMENT NUMBER = 2310
 (A's 80 - 84 = down 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2912
 MAXIMUM ELEMENT NUMBER = 2618
 center full tube get corners
 (A's 85 - 89 = up corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3249
 MAXIMUM ELEMENT NUMBER = 2926
 (A's 90 - 94 = down corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3586
 MAXIMUM ELEMENT NUMBER = 3234

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 814	USED FOR NODES	1214
NODE 680	USED FOR NODES	992
NODE 822	USED FOR NODES	1216
NODE 682	USED FOR NODES	1000
NODE 821	USED FOR NODES	1217
NODE 683	USED FOR NODES	999
NODE 820	USED FOR NODES	1218
NODE 684	USED FOR NODES	998
NODE 819	USED FOR NODES	1219
NODE 685	USED FOR NODES	997
NODE 818	USED FOR NODES	1220
NODE 686	USED FOR NODES	996
NODE 687	USED FOR NODES	995
NODE 817	USED FOR NODES	1221
NODE 816	USED FOR NODES	1186
NODE 652	USED FOR NODES	994
NODE 1791	USED FOR NODES	2127
NODE 2464	USED FOR NODES	2802
NODE 1876	USED FOR NODES	2170
NODE 2507	USED FOR NODES	2887
NODE 1877	USED FOR NODES	2169
NODE 2506	USED FOR NODES	2888
NODE 1878	USED FOR NODES	2168
NODE 2505	USED FOR NODES	2889
NODE 1879	USED FOR NODES	2167
NODE 2504	USED FOR NODES	2890
NODE 1880	USED FOR NODES	2166
NODE 2503	USED FOR NODES	2891
NODE 1881	USED FOR NODES	2165
NODE 2502	USED FOR NODES	2892
NODE 1882	USED FOR NODES	2164
NODE 2501	USED FOR NODES	2893
NODE 1883	USED FOR NODES	2163
NODE 2500	USED FOR NODES	2894
NODE 1884	USED FOR NODES	2162
NODE 2499	USED FOR NODES	2895
NODE 1885	USED FOR NODES	2161
NODE 2498	USED FOR NODES	2896
NODE 1886	USED FOR NODES	2160
NODE 2497	USED FOR NODES	2897
NODE 1887	USED FOR NODES	2159
NODE 2496	USED FOR NODES	2898
NODE 1888	USED FOR NODES	2158
NODE 2495	USED FOR NODES	2899
NODE 2494	USED FOR NODES	2859
NODE 2522	USED FOR NODES	3476
NODE 2535	USED FOR NODES	3477
NODE 2534	USED FOR NODES	3478

3475

NODE	2533	USED FOR NODES	3479	
NODE	2532	USED FOR NODES	3480	
NODE	1820	USED FOR NODES	3138	
NODE	1848	USED FOR NODES	2157	3139
NODE	1861	USED FOR NODES	3140	
NODE	434	USED FOR NODES	1453	
NODE	462	USED FOR NODES	1454	
NODE	475	USED FOR NODES	1455	
NODE	2523	USED FOR NODES	3489	
NODE	2524	USED FOR NODES	3488	
NODE	2525	USED FOR NODES	3487	
NODE	2526	USED FOR NODES	3486	
NODE	2527	USED FOR NODES	3485	
NODE	2528	USED FOR NODES	3484	
NODE	2529	USED FOR NODES	3483	
NODE	2530	USED FOR NODES	3482	
NODE	2531	USED FOR NODES	3481	
NODE	474	USED FOR NODES	1456	
NODE	473	USED FOR NODES	1457	
NODE	472	USED FOR NODES	1458	
NODE	471	USED FOR NODES	1459	
NODE	470	USED FOR NODES	1460	
NODE	469	USED FOR NODES	1461	
NODE	468	USED FOR NODES	1462	
NODE	467	USED FOR NODES	1463	
NODE	463	USED FOR NODES	1467	
NODE	466	USED FOR NODES	1464	
NODE	464	USED FOR NODES	1466	
NODE	465	USED FOR NODES	1465	
NODE	1860	USED FOR NODES	3141	
NODE	1859	USED FOR NODES	3142	
NODE	1858	USED FOR NODES	3143	
NODE	1857	USED FOR NODES	3144	
NODE	1856	USED FOR NODES	3145	
NODE	1855	USED FOR NODES	3146	
NODE	1854	USED FOR NODES	3147	
NODE	1853	USED FOR NODES	3148	
NODE	1852	USED FOR NODES	3149	
NODE	1851	USED FOR NODES	3150	
NODE	1850	USED FOR NODES	3151	
NODE	1849	USED FOR NODES	3152	

*** WARNING *** CP= 12.120 TIME= 00:44:46
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 12.420 TIME= 00:44:46
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.430 TIME= 00:44:46
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.440 TIME= 00:44:46
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.450 TIME= 00:44:46
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.

(2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

KEYPOINT	34 USED FOR KEYPOINT(S)	131	138	161
KEYPOINT	37 USED FOR KEYPOINT(S)	146	155	168
KEYPOINT	38 USED FOR KEYPOINT(S)	72		
KEYPOINT	39 USED FOR KEYPOINT(S)	88		
KEYPOINT	40 USED FOR KEYPOINT(S)	73		
KEYPOINT	41 USED FOR KEYPOINT(S)	89		
KEYPOINT	42 USED FOR KEYPOINT(S)	80		
KEYPOINT	43 USED FOR KEYPOINT(S)	128		
KEYPOINT	44 USED FOR KEYPOINT(S)	81	121	
KEYPOINT	45 USED FOR KEYPOINT(S)	130	160	
KEYPOINT	46 USED FOR KEYPOINT(S)	123		
KEYPOINT	47 USED FOR KEYPOINT(S)	162		
KEYPOINT	48 USED FOR KEYPOINT(S)	74		
KEYPOINT	49 USED FOR KEYPOINT(S)	99		
KEYPOINT	50 USED FOR KEYPOINT(S)	75		
KEYPOINT	51 USED FOR KEYPOINT(S)	98		
KEYPOINT	52 USED FOR KEYPOINT(S)	82		
KEYPOINT	53 USED FOR KEYPOINT(S)	145		
KEYPOINT	54 USED FOR KEYPOINT(S)	83	120	
KEYPOINT	55 USED FOR KEYPOINT(S)	147	169	
KEYPOINT	56 USED FOR KEYPOINT(S)	122		
KEYPOINT	57 USED FOR KEYPOINT(S)	171		
KEYPOINT	58 USED FOR KEYPOINT(S)	106		
KEYPOINT	59 USED FOR KEYPOINT(S)	137		
KEYPOINT	60 USED FOR KEYPOINT(S)	90	105	
KEYPOINT	61 USED FOR KEYPOINT(S)	129	136	
KEYPOINT	62 USED FOR KEYPOINT(S)	97	114	
KEYPOINT	63 USED FOR KEYPOINT(S)	144	153	
KEYPOINT	64 USED FOR KEYPOINT(S)	113		
KEYPOINT	65 USED FOR KEYPOINT(S)	152		
KEYPOINT	66 USED FOR KEYPOINT(S)	107		
KEYPOINT	67 USED FOR KEYPOINT(S)	112		
KEYPOINT	91 USED FOR KEYPOINT(S)	104		
KEYPOINT	96 USED FOR KEYPOINT(S)	115		
LINE	61 USED FOR LINE(S)	128		

*** WARNING ***

Due to merge, line 61 is now meshed.
LINE 62 USED FOR LINE(S) 108

CP= 12.670 TIME= 00:44:46

*** WARNING ***

Due to merge, line 62 is now meshed.
LINE 63 USED FOR LINE(S) 186

CP= 12.670 TIME= 00:44:46

*** WARNING ***

Due to merge, line 63 is now meshed.
LINE 64 USED FOR LINE(S) 118

CP= 12.680 TIME= 00:44:46

*** WARNING ***

Due to merge, line 64 is now meshed.
LINE 65 USED FOR LINE(S) 234

CP= 12.680 TIME= 00:44:46

*** WARNING ***

Due to merge, line 65 is now meshed.
LINE 66 USED FOR LINE(S) 178

CP= 12.680 TIME= 00:44:46

*** WARNING ***

Due to merge, line 66 is now meshed.
LINE 69 USED FOR LINE(S) 105

CP= 12.680 TIME= 00:44:46

*** WARNING ***

Due to merge, line 69 is now meshed.
LINE 70 USED FOR LINE(S) 144

CP= 12.690 TIME= 00:44:46

*** WARNING ***

Due to merge, line 70 is now meshed.
LINE 71 USED FOR LINE(S) 115

CP= 12.690 TIME= 00:44:46

*** WARNING *** Due to merge, line 71 is now meshed. LINE 72 USED FOR LINE(S) 214	CP= 12.690 TIME= 00:44:46
*** WARNING *** Due to merge, line 72 is now meshed. LINE 73 USED FOR LINE(S) 174	CP= 12.700 TIME= 00:44:46
*** WARNING *** Due to merge, line 73 is now meshed. LINE 74 USED FOR LINE(S) 250	CP= 12.700 TIME= 00:44:46
*** WARNING *** Due to merge, line 74 is now meshed. LINE 79 USED FOR LINE(S) 152	CP= 12.700 TIME= 00:44:46
*** WARNING *** Due to merge, line 79 is now meshed. LINE 80 USED FOR LINE(S) 195	CP= 12.700 TIME= 00:44:46
*** WARNING *** Due to merge, line 80 is now meshed. LINE 81 USED FOR LINE(S) 130	CP= 12.710 TIME= 00:44:46
*** WARNING *** Due to merge, line 81 is now meshed. LINE 82 USED FOR LINE(S) 183	CP= 12.710 TIME= 00:44:46
*** WARNING *** Due to merge, line 82 is now meshed. LINE 83 USED FOR LINE(S) 110	CP= 12.710 TIME= 00:44:46
*** WARNING *** Due to merge, line 83 is now meshed. LINE 84 USED FOR LINE(S) 119	CP= 12.720 TIME= 00:44:46
*** WARNING *** Due to merge, line 84 is now meshed. LINE 85 USED FOR LINE(S) 141	CP= 12.720 TIME= 00:44:46
*** WARNING *** Due to merge, line 85 is now meshed. LINE 86 USED FOR LINE(S) 207	CP= 12.720 TIME= 00:44:46
*** WARNING *** Due to merge, line 86 is now meshed. LINE 87 USED FOR LINE(S) 163	CP= 12.730 TIME= 00:44:46
*** WARNING *** Due to merge, line 87 is now meshed. LINE 88 USED FOR LINE(S) 219	CP= 12.730 TIME= 00:44:46
*** WARNING *** Due to merge, line 88 is now meshed. LINE 92 USED FOR LINE(S) 155	CP= 12.730 TIME= 00:44:46
*** WARNING *** Due to merge, line 92 is now meshed. LINE 95 USED FOR LINE(S) 176	CP= 12.730 TIME= 00:44:46
*** WARNING *** Due to merge, line 95 is now meshed. LINE 98 USED FOR LINE(S) 161	CP= 12.740 TIME= 00:44:46
*** WARNING *** Due to merge, line 98 is now meshed. LINE 122 USED FOR LINE(S) 171 LINE 133 USED FOR LINE(S) 150 LINE 139 USED FOR LINE(S) 166 LINE 188 USED FOR LINE(S) 231	CP= 12.740 TIME= 00:44:46

LINE 190 USED FOR LINE(S) 198
LINE 210 USED FOR LINE(S) 226
LINE 212 USED FOR LINE(S) 243

Create mesh in tube guides, thermal shunts
Set mesh size for gaps.....

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 41 TO 60 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 20 STEP 2

24 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 29 STEP 2

28 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO MDIV = 2, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 61 TO 62 STEP 1

2 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 69 TO 70 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 91 TO 92 STEP 1

6 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 98 TO 99 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 22 STEP 1

10 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 77 TO 78 STEP 1

12 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 89 TO 90 STEP 1

14 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 67 TO 68 STEP 1

16 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 13 STEP 1

19 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 30 TO 30 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

*** WARNING *** CP= 12.880 TIME= 00:44:47
Some lines in the currently selected set were meshed and could not be altered.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 63 TO 66 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 71 TO 74 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 88 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 40 STEP 1

26 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 93 TO 97 STEP 1

31 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 15 TO 19 STEP 2

34 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 24 TO 28 STEP 2

37 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 14, SPACING RATIO = 1.000

*** WARNING *** CP= 12.920 TIME= 00:44:47
Some lines in the currently selected set were meshed and could not be altered.

MESH CORNER GUIDES

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS 7 TO 10 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 3758
MAXIMUM ELEMENT NUMBER = 3346
MESH THERMAL SHUNTS

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS

IN AREAS 11 TO 27 IN STEPS OF 1

*** WARNING *** CP= 13.490 TIME= 00:44:47
Meshing of area 13 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.490 TIME= 00:44:47
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3365 3378 3379 3392

*** WARNING *** CP= 13.540 TIME= 00:44:47
Meshing of area 14 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.540 TIME= 00:44:47
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3393 3406 3407 3420

*** WARNING *** CP= 13.680 TIME= 00:44:47
Meshing of area 18 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.680 TIME= 00:44:47
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3453 3454 3479 3480

*** WARNING *** CP= 13.730 TIME= 00:44:47
Meshing of area 19 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.730 TIME= 00:44:47
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3481 3482 3507 3508

*** WARNING *** CP= 13.860 TIME= 00:44:48
Meshing of area 22 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.860 TIME= 00:44:48
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3537 3550 3551 3564

*** WARNING *** CP= 13.910 TIME= 00:44:48
Meshing of area 23 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.910 TIME= 00:44:48
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3565 3578 3579 3592

*** WARNING *** CP= 13.960 TIME= 00:44:48
Meshing of area 24 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.960 TIME= 00:44:48
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3593 3606 3607 3620

*** WARNING *** CP= 14.010 TIME= 00:44:48
Meshing of area 25 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.010 TIME= 00:44:48
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3621 3634 3635 3648

*** WARNING *** CP= 14.070 TIME= 00:44:48
Meshing of area 26 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.070 TIME= 00:44:48
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3649 3662 3663 3676

NUMBER OF AREAS MESHED = 17
MAXIMUM NODE NUMBER = 3991
MAXIMUM ELEMENT NUMBER = 3690

Create mesh in UCF inner shell
(L's 105,108)

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 21 STEP 1

9 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 105 KP1= 15 KP2= 24

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 30 STEP 1

9 LINES (OF 219 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 108 KP1= 24 KP2= 33

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 31 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 3 TO 4 IN STEPS OF 1

*** WARNING *** CP= 15.070 TIME= 00:44:49
Meshing of area 3 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.070 TIME= 00:44:49
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3718	3719	3720	3721	3722	3723	3724	3725	3726	3727
3728	3729	3730	3731	3732	3733	3734	3735	3738	3763
3764	3765	3766	3767	3768	3769	3770	3771	3772	3773
3774	3799	3800	3801	3802	3803	3804	3805	3806	3807
3808	3809	3810	3837	3838	3839	3840	3841	3842	3843
3844	3845	3846	3847	3848	3849	3850	3851	3852	3853
3854	3855								

*** WARNING *** CP= 15.940 TIME= 00:44:50
Meshing of area 4 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.940 TIME= 00:44:50
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3910	3911	3912	3913	3914	3915	3916	3917	3918	3919
3920	3921	3922	3923	3924	3925	3926	3927	3930	3955
3956	3957	3958	3959	3960	3961	3962	3963	3964	3965
3966	3991	3992	3993	3994	3995	3996	3997	3998	3999
4000	4001	4002	4029	4030	4031	4032	4033	4034	4035
4036	4037	4038	4039	4040	4041	4042	4043	4044	4045
4046	4047								

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4483
MAXIMUM ELEMENT NUMBER = 4074

Delete concatenated lines
(L's freed up 105,108)

LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 64, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 15

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 1 TO 2 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4870
MAXIMUM ELEMENT NUMBER = 4458

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2190 USED FOR NODES 3598
NODE 2185 USED FOR NODES 3588
NODE 2871 USED FOR NODES 3734
NODE 2186 USED FOR NODES 3602
NODE 2188 USED FOR NODES 3600
NODE 2187 USED FOR NODES 3601
NODE 2189 USED FOR NODES 3599
NODE 2191 USED FOR NODES 3597
NODE 2831 USED FOR NODES 3717
NODE 2192 USED FOR NODES 3596
NODE 2193 USED FOR NODES 3595
NODE 2194 USED FOR NODES 3594
NODE 2198 USED FOR NODES 3590
NODE 2196 USED FOR NODES 3592
NODE 2197 USED FOR NODES 3591
NODE 2195 USED FOR NODES 3593
NODE 2860 USED FOR NODES 3745
NODE 2862 USED FOR NODES 3743
NODE 2863 USED FOR NODES 3742
NODE 2864 USED FOR NODES 3741
NODE 2865 USED FOR NODES 3740
NODE 2866 USED FOR NODES 3739
NODE 2867 USED FOR NODES 3738
NODE 2868 USED FOR NODES 3737
NODE 2861 USED FOR NODES 3744
NODE 2870 USED FOR NODES 3735
NODE 2872 USED FOR NODES 3733
NODE 2869 USED FOR NODES 3736
NODE 3224 USED FOR NODES 3659
NODE 3518 USED FOR NODES 3676
NODE 3225 USED FOR NODES 3658
NODE 3517 USED FOR NODES 3677
NODE 3226 USED FOR NODES 3657
NODE 3516 USED FOR NODES 3678
NODE 3227 USED FOR NODES 3656
NODE 3515 USED FOR NODES 3679
NODE 3228 USED FOR NODES 3655
NODE 3514 USED FOR NODES 3680
NODE 3229 USED FOR NODES 3654
NODE 3513 USED FOR NODES 3681
NODE 3230 USED FOR NODES 3653
NODE 3512 USED FOR NODES 3682
NODE 3231 USED FOR NODES 3652
NODE 3511 USED FOR NODES 3683

NODE 3232 USED FOR NODES 3651
 NODE 3510 USED FOR NODES 3684
 NODE 3233 USED FOR NODES 3650
 NODE 3509 USED FOR NODES 3685
 NODE 3234 USED FOR NODES 3649
 NODE 3508 USED FOR NODES 3686
 NODE 3235 USED FOR NODES 3648
 NODE 3507 USED FOR NODES 3687
 NODE 3236 USED FOR NODES 3647
 NODE 3506 USED FOR NODES 3688
 NODE 3505 USED FOR NODES 3674
 NODE 3196 USED FOR NODES 3631

*** WARNING *** CP= 20.090 TIME= 00:44:54
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 20.400 TIME= 00:44:54
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.400 TIME= 00:44:54
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.410 TIME= 00:44:54
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.410 TIME= 00:44:54
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
 IN AREAS 5 TO 6 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 5124
 MAXIMUM ELEMENT NUMBER = 4752

GENERATE NODES AND ELEMENTS
 IN AREAS 28 TO 34 IN STEPS OF 1
 ** AREA 29 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 30 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 31 MESHED WITH 110 QUADRILATERALS, 8 TRIANGLES **
 ** AREA 32 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 33 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **

NUMBER OF AREAS MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5252

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2213 USED FOR NODES 5167
 NODE 2844 USED FOR NODES 5451
 NODE 2214 USED FOR NODES 5168
 NODE 2843 USED FOR NODES 5450
 NODE 2215 USED FOR NODES 5169
 NODE 2842 USED FOR NODES 5449
 NODE 2216 USED FOR NODES 5170
 NODE 2841 USED FOR NODES 5448
 NODE 2217 USED FOR NODES 5171
 NODE 2840 USED FOR NODES 5447
 NODE 2218 USED FOR NODES 5172
 NODE 2839 USED FOR NODES 5446
 NODE 2219 USED FOR NODES 5173
 NODE 2838 USED FOR NODES 5445
 NODE 2220 USED FOR NODES 5174
 NODE 2837 USED FOR NODES 5444
 NODE 2221 USED FOR NODES 5175
 NODE 2836 USED FOR NODES 5443
 NODE 2835 USED FOR NODES 5442
 NODE 2222 USED FOR NODES 5176
 NODE 2223 USED FOR NODES 5177
 NODE 2834 USED FOR NODES 5441
 NODE 2224 USED FOR NODES 5178
 NODE 2833 USED FOR NODES 5440
 NODE 2225 USED FOR NODES 5179
 NODE 2832 USED FOR NODES 5439
 NODE 3205 USED FOR NODES 5235
 NODE 3197 USED FOR NODES 5227
 NODE 3199 USED FOR NODES 5229
 NODE 3200 USED FOR NODES 5230
 NODE 3539 USED FOR NODES 5384
 NODE 3542 USED FOR NODES 5387
 NODE 3201 USED FOR NODES 5231
 NODE 3540 USED FOR NODES 5385
 NODE 3202 USED FOR NODES 5232
 NODE 3203 USED FOR NODES 5233
 NODE 3537 USED FOR NODES 5382
 NODE 3204 USED FOR NODES 5234
 NODE 3209 USED FOR NODES 5239
 NODE 3534 USED FOR NODES 5379
 NODE 3545 USED FOR NODES 5390
 NODE 3207 USED FOR NODES 5237
 NODE 3541 USED FOR NODES 5386
 NODE 3208 USED FOR NODES 5238
 NODE 3544 USED FOR NODES 5389
 NODE 3536 USED FOR NODES 5381
 NODE 3538 USED FOR NODES 5383
 NODE 3546 USED FOR NODES 5391
 NODE 3198 USED FOR NODES 5228
 NODE 3206 USED FOR NODES 5236
 NODE 3535 USED FOR NODES 5380
 NODE 3543 USED FOR NODES 5388

*** WARNING *** CP= 25.790 TIME= 00:45:00
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 26.130 TIME= 00:45:00
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the

tolerance (2.335E-06).

*** WARNING *** CP= 26.130 TIME= 00:45:00

Keypoints 30 and 154 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.130 TIME= 00:45:00

Keypoints 27 and 170 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 26.140 TIME= 00:45:00

Keypoints 21 and 163 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

Create radiation surface elements
Basket spaces

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 13 TO 21 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5308

GENERATE NODES AND ELEMENTS
ON LINES 22 TO 30 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5364

GENERATE NODES AND ELEMENTS
ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5392

GENERATE NODES AND ELEMENTS
ON LINES 37 TO 38 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5420

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 92 TO 98 IN STEPS OF 1

NUMBER OF LINES MESHED = 7
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5504

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 68 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5518

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 78 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5546

GENERATE NODES AND ELEMENTS
ON LINES 89 TO 90 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5560

***** ROUTINE COMPLETED ***** CP = 26.430

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

/SHOW SWITCH PLOTS TO FILE meshfull.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshfull.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4766 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

/SHOW SWITCH PLOTS TO FILE meshgap.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshgap.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

/SHOW SWITCH PLOTS TO FILE meshrad.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshrad.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:45:06 JUN 13, 1995 CP= 31.980
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

310 NODES (OF 5339 DEFINED) SELECTED FROM
308 SELECTED ELEMENTS BY NSLE COMMAND.

STEFAN-BOLTZMANN CONSTANT= .56700E-07

TWO DIMENSIONAL PLANE GEOMETRY (UNIT THICKNESS)

HIDDEN SURFACE (SLOW) METHOD
NUMBER OF ZONES= 800

WRITE RADIATION MATRIX TO FILE= spaces.sub

*** WARNING *** CP= 32.240 TIME= 00:45:06
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation losses.

NUMBER OF ELEMENTS= 308 NUMBER OF NODES= 310

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5539 NODES (OF 5539 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 46.880

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:45:21 JUN 13, 1995 CP= 46.880
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE SET TO 18

SUPERELEMENT 5561 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 5561

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 5561
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

29 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 46.940 TIME= 00:45:21
Nodes cannot be cleared from line 13 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.940 TIME= 00:45:21
Nodes cannot be cleared from line 15 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.950 TIME= 00:45:21
Nodes cannot be cleared from line 17 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.950 TIME= 00:45:21
Nodes cannot be cleared from line 19 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.960 TIME= 00:45:21
Nodes cannot be cleared from line 21 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.960 TIME= 00:45:21
Nodes cannot be cleared from line 22 because area 31 is meshed. Only

elements are deleted.

*** NOTE *** CP= 46.960 TIME= 00:45:21
Nodes cannot be cleared from line 24 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.970 TIME= 00:45:21
Nodes cannot be cleared from line 26 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.970 TIME= 00:45:21
Nodes cannot be cleared from line 28 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.980 TIME= 00:45:21
Nodes cannot be cleared from line 30 because area 34 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.980 TIME= 00:45:21
Nodes cannot be cleared from line 33 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 46.990 TIME= 00:45:21
Nodes cannot be cleared from line 34 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.000 TIME= 00:45:21
Nodes cannot be cleared from line 37 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.000 TIME= 00:45:21
Nodes cannot be cleared from line 38 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.010 TIME= 00:45:21
Nodes cannot be cleared from line 67 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.010 TIME= 00:45:21
Nodes cannot be cleared from line 68 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.010 TIME= 00:45:21
Nodes cannot be cleared from line 75 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.020 TIME= 00:45:21
Nodes cannot be cleared from line 76 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.020 TIME= 00:45:21
Nodes cannot be cleared from line 77 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.030 TIME= 00:45:21
Nodes cannot be cleared from line 78 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.030 TIME= 00:45:21
Nodes cannot be cleared from line 89 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.030 TIME= 00:45:21
Nodes cannot be cleared from line 90 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.040 TIME= 00:45:21
Nodes cannot be cleared from line 92 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.040 TIME= 00:45:21
Nodes cannot be cleared from line 93 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.050 TIME= 00:45:21
Nodes cannot be cleared from line 94 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.050 TIME= 00:45:21
Nodes cannot be cleared from line 95 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.060 TIME= 00:45:21
Nodes cannot be cleared from line 96 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.060 TIME= 00:45:21
Nodes cannot be cleared from line 97 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.070 TIME= 00:45:21
Nodes cannot be cleared from line 98 because area 34 is meshed. Only
elements are deleted.

CLEARED 29 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 47.080

Set solution parameters and apply B.C.'s

Solve steady-state for initial conditions
with WP surface equal to drift ambient
temperature from repository model.

***** ANSYS SOLUTION ROUTINE *****

PERFORM A TRANSIENT ANALYSIS
THIS WILL BE A NEW ANALYSIS

USE THE DEFAULT NEWTON-RAPHSON OPTION FOR ALL DOFS
AND USE THE DEFAULT ADAPTIVE DESCENT OPTION

*** NOTE *** CP= 47.080 TIME= 00:45:21
Damping (if present) may be ignored only in reduced transient analyses.

PERFORM A FULL TRANSIENT ANALYSIS

TEMPERATURE OFFSET FROM ABSOLUTE ZERO= 273.150

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)

RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 5538 BY 1
REAL= 26.1409103 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .10000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

*** NOTE *** CP= 48.510 TIME= 00:45:23
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:45:23 JUN 13, 1995 CP= 48.510
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
DEGREES OF FREEDOM.TEMP
ANALYSIS TYPETRANSIENT
SOLUTION METHOD.FULL

OFFSET TEMPERATURE FROM ABSOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTION PROGRAM CHOSEN

*** NOTE *** CP= 49.560 TIME= 00:45:24
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 50.060 TIME= 00:45:24
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER. 1
 TIME AT END OF THE LOAD STEP.10000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGED YES (EXIT)
 CONVERGENCE CONTROLS. USE DEFAULTS
 PRINT OUTPUT CONTROLS NO PRINTOUT
 DATABASE OUTPUT CONTROLS. ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 4108.7

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .33488	IXX = 641.0	IXX = 641.0
YC = .13217E-10	IYY = 641.0	IYY = 180.3
ZC = .00000E+00	IZZ = 1282.	IZZ = 821.2
	IXY = -.1213E-07	IXY = .6051E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	4108.66

Range of element maximum matrix coefficients in global coordinates
 Maximum= 2640.26464 at element 3393.
 Minimum= 1.261859514E-09 at element 5561.

*** WARNING *** CP= 70.210 TIME= 00:45:45
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES | TYPE | NUMBER | ENAME | TOTAL CP | AVE CP | |------|--------|----------|----------|--------| | 1 | 5252 | PLANE55 | 13.200 | .003 | | 18 | 1 | MATRIX50 | .120 | .120 |

Time at end of element matrix formulation CP= 70.21.
 HT FLOW CONVERGENCE VALUE= 9671. CRITERION= 9.671

Estimated number of active DOF= 5210.

Maximum wavefront= 384.

Time at end of matrix triangularization CP= 95.84.

Equation solver maximum pivot= 5623.89496 at node 3957 TEMP.

Equation solver minimum pivot= 0.172720498 at node 5125 TEMP.

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 191.7
 HT FLOW CONVERGENCE VALUE= 73.53 CRITERION= .3497
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -31.33
 HT FLOW CONVERGENCE VALUE= 5.980 CRITERION= .3443
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.879
 HT FLOW CONVERGENCE VALUE= .3130 CRITERION= .3424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
------	--------	-------	----------	--------

1	5252	PLANE55	7.340	.001
18	1	MATRIX50	.160	.160

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
------	--------	-------	----------	--------

1	5252	PLANE55	1.070	.000
18	1	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 3

*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS

ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 5210

R.M.S. WAVEFRONT SIZE = 176.6

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096

2.594 MB WRITTEN ON ELEMENT MATRIX FILE: ucf21j.emat

2.359 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf21j.esav

6.938 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf21j.tri

.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf21j.dsub

2.859 MB WRITTEN ON RESULTS FILE: ucf21j.rth

Solve steady-state for initial conditions
 with WP surface temperatures from repository
 steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
 RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
 2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
 RANGE 1 TO 5538 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 129

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.961 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.991 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.059 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .20000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** WARNING *** CP= 215.490 TIME= 00:48:15
This load step will be a static (steady-state) step.

*** NOTE *** CP= 216.010 TIME= 00:48:15
The step data was checked and warning messages were found.
Please review output or errors file (ucf21j.err) for these warning
messages.

*** NOTE *** CP= 216.020 TIME= 00:48:15
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:48:15 JUN 13, 1995 CP= 216.020
FOR SUPPORT CALL ROBERT BAINEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 2
 TIME AT END OF THE LOAD STEP.20000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1585E+05 CRITERION= 15.85
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.05
 HT FLOW CONVERGENCE VALUE= 36.69 CRITERION= .3392
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -9.252
 HT FLOW CONVERGENCE VALUE= 2.636 CRITERION= .3370
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9046
 HT FLOW CONVERGENCE VALUE= .1191 CRITERION= .3364 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 6
 *** TIME = .20000E-05 TIME INC = .10000E-05

Set time integration parameters

INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

USE AUTOMATIC TIME STEPPING THIS LOAD STEP
 Time substep ranges from 10 sec to 1/4 loadstep

USE 10 SUBSTEPS INITIALLY THIS LOAD STEP FOR ALL DOFS
 FOR AUTOMATIC TIME STEPPING:
 USE 40 SUBSTEPS AS A MAXIMUM
 USE 5 SUBSTEPS AS A MINIMUM
 USE THE FINAL TIME STEP SIZE OF THE PREVIOUS LOAD STEP
 AS THE STARTING TIME STEP SIZE.
 Begin Transient
 Apply loads and solve for 0 to .9 years

*DO LOOP ON PARAMETER= TM FROM 31.558 TO .28402E+08 BY .31558E+07

TIME= 31.558

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 68.961 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 68.991 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.059 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 343.980 TIME= 00:50:25
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:50:25 JUN 13, 1995 CP= 343.980
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 3
TIME AT END OF THE LOAD STEP. 31.558
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1191 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1750E-03
HT FLOW CONVERGENCE VALUE= .3770E-05 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1847 OSCILLATION LIMIT = .1457
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2208 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2006E-03
HT FLOW CONVERGENCE VALUE= .5694E-05 CRITERION= .3364 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .9754E-01 OSCILLATION LIMIT = .7695E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .2114 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3194E-03
HT FLOW CONVERGENCE VALUE= .1160E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 9
*** TIME = 3.94470 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .2481E-01 OSCILLATION LIMIT = .5872E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .1998 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1868E-03
HT FLOW CONVERGENCE VALUE= .2589E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 10
*** TIME = 10.2562 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .4979E-02 OSCILLATION LIMIT = .3143E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1961 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9394E-04
HT FLOW CONVERGENCE VALUE= .2331E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 11
*** TIME = 16.5677 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .2184E-02 OSCILLATION LIMIT = .1379E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1918 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9375E-04
HT FLOW CONVERGENCE VALUE= .2254E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 12
*** TIME = 22.8793 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1793E-02 OSCILLATION LIMIT = .1132E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1907 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9357E-04
HT FLOW CONVERGENCE VALUE= .2214E-04 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 13
*** TIME = 29.1908 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1605E-02 OSCILLATION LIMIT = .1013E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .1875 CRITERION= .3364
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3504E-04
HT FLOW CONVERGENCE VALUE= .8228E-05 CRITERION= .3364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 8 COMPLETED. CUM ITER = 14
*** TIME = 31.5576 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .1526E-02 OSCILLATION LIMIT = .3611E-02

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:59:10 JUN 13, 1995 CP= 862.210
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 250.6 CRITERION= .4195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7356
 HT FLOW CONVERGENCE VALUE= .4686 CRITERION= .3347
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7317E-01
 HT FLOW CONVERGENCE VALUE= .2067E-01 CRITERION= .3347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 16
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1061E-04 OSCILLATION LIMIT = .8374
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 251.0 CRITERION= .4183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7395
 HT FLOW CONVERGENCE VALUE= .6008 CRITERION= .3353
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9539E-01
 HT FLOW CONVERGENCE VALUE= .2240E-01 CRITERION= .3354 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5206E-06 OSCILLATION LIMIT = .4107E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 751.9 CRITERION= .8233
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.207
 HT FLOW CONVERGENCE VALUE= 1.657 CRITERION= .3343
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3410
 HT FLOW CONVERGENCE VALUE= .9174E-01 CRITERION= .3344 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .1201E-05 OSCILLATION LIMIT = .2842
 *** AUTO TIME STEP: NEXT TIME INC = .41638E+06 INCREASED (FACTOR = 1.7592)

HT FLOW CONVERGENCE VALUE= 1323. CRITERION= 1.364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.882
 HT FLOW CONVERGENCE VALUE= 2.616 CRITERION= .3343
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6474
 HT FLOW CONVERGENCE VALUE= .1772 CRITERION= .3343 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
 *** TIME = 810877. TIME INC = 416375.
 *** RESPONSE EIGENVALUE = .9491E-06 OSCILLATION LIMIT = .3952
 *** AUTO STEP TIME: NEXT TIME INC = .41638E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1322. CRITERION= 1.364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.882
 HT FLOW CONVERGENCE VALUE= 2.682 CRITERION= .3330
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6399
 HT FLOW CONVERGENCE VALUE= .1779 CRITERION= .3330 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 24
 *** TIME = .122725E+07 TIME INC = 416375.
 *** RESPONSE EIGENVALUE = .1025E-05 OSCILLATION LIMIT = .4269
 *** AUTO STEP TIME: NEXT TIME INC = .41638E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1322. CRITERION= 1.363
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.882
 HT FLOW CONVERGENCE VALUE= 2.904 CRITERION= .3329
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6485
 HT FLOW CONVERGENCE VALUE= .1843 CRITERION= .3329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 26
 *** TIME = .164363E+07 TIME INC = 416375.
 *** RESPONSE EIGENVALUE = .9372E-06 OSCILLATION LIMIT = .3902
 *** AUTO STEP TIME: NEXT TIME INC = .41638E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1321. CRITERION= 1.363
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.882
 HT FLOW CONVERGENCE VALUE= 2.901 CRITERION= .3317

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6474
 HT FLOW CONVERGENCE VALUE= .1875 CRITERION= .3317 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 28
 *** TIME = .206000E+07 TIME INC = 416375.
 *** RESPONSE EIGENVALUE = .1040E-05 OSCILLATION LIMIT = .4331
 *** AUTO STEP TIME: NEXT TIME INC = .41638E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1322. CRITERION= 1.362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.882
 HT FLOW CONVERGENCE VALUE= 2.984 CRITERION= .3316
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6527
 HT FLOW CONVERGENCE VALUE= .1896 CRITERION= .3316 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 30
 *** TIME = .247638E+07 TIME INC = 416375.
 *** RESPONSE EIGENVALUE = .9468E-06 OSCILLATION LIMIT = .3942
 *** AUTO STEP TIME: NEXT TIME INC = .41638E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1321. CRITERION= 1.362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 3.882
 HT FLOW CONVERGENCE VALUE= 2.869 CRITERION= .3303
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6480
 HT FLOW CONVERGENCE VALUE= .1903 CRITERION= .3303 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 9 COMPLETED. CUM ITER = 32
 *** TIME = .289275E+07 TIME INC = 416375.
 *** RESPONSE EIGENVALUE = .1019E-05 OSCILLATION LIMIT = .4241
 *** AUTO TIME STEP: NEXT TIME INC = .26304E+06 DECREASED (FACTOR = .6317)

HT FLOW CONVERGENCE VALUE= 834.5 CRITERION= .8974
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.453
 HT FLOW CONVERGENCE VALUE= 1.758 CRITERION= .3304
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3888
 HT FLOW CONVERGENCE VALUE= .1109 CRITERION= .3304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 10 COMPLETED. CUM ITER = 34
 *** TIME = .315579E+07 TIME INC = 263039.
 *** RESPONSE EIGENVALUE = .8708E-06 OSCILLATION LIMIT = .2291

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:15:14 JUN 13, 1995 CP= 1815.960
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 164.7 CRITERION= .3692
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7263
 HT FLOW CONVERGENCE VALUE= .4789 CRITERION= .3311
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1053
 HT FLOW CONVERGENCE VALUE= .2509E-01 CRITERION= .3312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 36
 *** TIME = .341883E+07 TIME INC = 263039.
 *** RESPONSE EIGENVALUE = .2207E-05 OSCILLATION LIMIT = .5805
 *** AUTO STEP TIME: NEXT TIME INC = .26304E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 164.8 CRITERION= .3699
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4496
 HT FLOW CONVERGENCE VALUE= .3341 CRITERION= .3304
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5538E-01
 HT FLOW CONVERGENCE VALUE= .1982E-01 CRITERION= .3304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 38
 *** TIME = .368187E+07 TIME INC = 263039.
 *** RESPONSE EIGENVALUE = .1378E-04 OSCILLATION LIMIT = 3.623

*** AUTO TIME STEP: NEXT TIME INC = 87680. DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 54.90 CRITERION= .3349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2378
 HT FLOW CONVERGENCE VALUE= .1601 CRITERION= .3306 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 39
 *** TIME = .376955E+07 TIME INC = 87679.7
 *** RESPONSE EIGENVALUE = .3470E-05 OSCILLATION LIMIT = .3043
 *** AUTO STEP TIME: NEXT TIME INC = 87680. UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.98 CRITERION= .3351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1504
 HT FLOW CONVERGENCE VALUE= .1136 CRITERION= .3305 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 40
 *** TIME = .385723E+07 TIME INC = 87679.7
 *** RESPONSE EIGENVALUE = .5534E-05 OSCILLATION LIMIT = .4852
 *** AUTO STEP TIME: NEXT TIME INC = 87680. UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.91 CRITERION= .3351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1499
 HT FLOW CONVERGENCE VALUE= .1230 CRITERION= .3304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 41
 *** TIME = .394491E+07 TIME INC = 87679.7
 *** RESPONSE EIGENVALUE = .4110E-05 OSCILLATION LIMIT = .3604
 *** AUTO STEP TIME: NEXT TIME INC = 87680. UNCHANGED

HT FLOW CONVERGENCE VALUE= 54.98 CRITERION= .3350
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1505
 HT FLOW CONVERGENCE VALUE= .1161 CRITERION= .3304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 42
 *** TIME = .403259E+07 TIME INC = 87679.7
 *** RESPONSE EIGENVALUE = .3151E-05 OSCILLATION LIMIT = .2763
 *** AUTO TIME STEP: NEXT TIME INC = .15868E+06 INCREASED (FACTOR = 1.8098)

HT FLOW CONVERGENCE VALUE= 99.36 CRITERION= .3450
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2712
 HT FLOW CONVERGENCE VALUE= .2201 CRITERION= .3303 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 43
 *** TIME = .419127E+07 TIME INC = 158679.
 *** RESPONSE EIGENVALUE = .1602E-05 OSCILLATION LIMIT = .2542
 *** AUTO TIME STEP: NEXT TIME INC = .31216E+06 INCREASED (FACTOR = 1.9673)

HT FLOW CONVERGENCE VALUE= 195.5 CRITERION= .3838
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5342
 HT FLOW CONVERGENCE VALUE= .4289 CRITERION= .3302
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8484E-01
 HT FLOW CONVERGENCE VALUE= .2665E-01 CRITERION= .3301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 45
 *** TIME = .450343E+07 TIME INC = 312163.
 *** RESPONSE EIGENVALUE = .2402E-05 OSCILLATION LIMIT = .7498
 *** AUTO TIME STEP: NEXT TIME INC = .20817E+06 DECREASED (FACTOR = .6669)

HT FLOW CONVERGENCE VALUE= 130.3 CRITERION= .3549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3558
 HT FLOW CONVERGENCE VALUE= .2916 CRITERION= .3299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 46
 *** TIME = .471160E+07 TIME INC = 208167.
 *** RESPONSE EIGENVALUE = .7964E-06 OSCILLATION LIMIT = .1658
 *** AUTO STEP TIME: NEXT TIME INC = .20817E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 130.5 CRITERION= .3548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3568
 HT FLOW CONVERGENCE VALUE= .2871 CRITERION= .3299 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 47
*** TIME = .491977E+07 TIME INC = 208167.
*** RESPONSE EIGENVALUE = .1008E-05 OSCILLATION LIMIT = .2098
*** AUTO TIME STEP: NEXT TIME INC = .49604E+06 INCREASED (FACTOR = 2.3829)
```

```
HT FLOW CONVERGENCE VALUE= 310.7 CRITERION= .4532
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8479
HT FLOW CONVERGENCE VALUE= .6462 CRITERION= .3297
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1395
HT FLOW CONVERGENCE VALUE= .4519E-01 CRITERION= .3294 <<< CONVERGED
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```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 49
*** TIME = .541581E+07 TIME INC = 496044.
*** RESPONSE EIGENVALUE = .3072E-05 OSCILLATION LIMIT = 1.524
*** AUTO TIME STEP: NEXT TIME INC = .16535E+06 DECREASED (FACTOR = .3333)
```

```
HT FLOW CONVERGENCE VALUE= 103.7 CRITERION= .3454
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2828
HT FLOW CONVERGENCE VALUE= .2151 CRITERION= .3295 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 12 COMPLETED. CUM ITER = 50
*** TIME = .558116E+07 TIME INC = 165348.
*** RESPONSE EIGENVALUE = .8034E-06 OSCILLATION LIMIT = .1328
*** AUTO TIME STEP: NEXT TIME INC = .16535E+06 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 103.7 CRITERION= .3454
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2826
HT FLOW CONVERGENCE VALUE= .2091 CRITERION= .3294 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 13 COMPLETED. CUM ITER = 51
*** TIME = .574651E+07 TIME INC = 165348.
*** RESPONSE EIGENVALUE = .1758E-05 OSCILLATION LIMIT = .2907
*** AUTO TIME STEP: NEXT TIME INC = .28440E+06 INCREASED (FACTOR = 1.7200)
```

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HT FLOW CONVERGENCE VALUE= 178.4 CRITERION= .3746
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4861
HT FLOW CONVERGENCE VALUE= .3390 CRITERION= .3293
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7476E-01
HT FLOW CONVERGENCE VALUE= .2437E-01 CRITERION= .3291 <<< CONVERGED
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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 14 COMPLETED. CUM ITER = 53
*** TIME = .603090E+07 TIME INC = 284398.
*** RESPONSE EIGENVALUE = .3042E-05 OSCILLATION LIMIT = .8651
*** AUTO TIME STEP: NEXT TIME INC = .16438E+06 DECREASED (FACTOR = .5780)
```

```
HT FLOW CONVERGENCE VALUE= 103.1 CRITERION= .3449
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2810
HT FLOW CONVERGENCE VALUE= .2060 CRITERION= .3290 <<< CONVERGED
```

```
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 15 COMPLETED. CUM ITER = 54
*** TIME = .619529E+07 TIME INC = 164382.
*** RESPONSE EIGENVALUE = .6753E-06 OSCILLATION LIMIT = .1110
*** AUTO TIME STEP: NEXT TIME INC = .11627E+06 DECREASED (FACTOR = .7073)
```

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HT FLOW CONVERGENCE VALUE= 73.06 CRITERION= .3371
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1996
HT FLOW CONVERGENCE VALUE= .1387 CRITERION= .3290 <<< CONVERGED
```

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 16 COMPLETED. CUM ITER = 55
*** TIME = .631155E+07 TIME INC = 116266.
*** RESPONSE EIGENVALUE = .1545E-05 OSCILLATION LIMIT = .1796
```

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 01:35:16 JUN 13, 1995 CP= 3003.330
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
```


21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 45.14 CRITERION= .3321
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1225
 HT FLOW CONVERGENCE VALUE= .8827E-01 CRITERION= .3290 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 56
 *** TIME = .642782E+07 TIME INC = 116266.
 *** RESPONSE EIGENVALUE = .4594E-05 OSCILLATION LIMIT = .5341
 *** AUTO STEP TIME: NEXT TIME INC = .11627E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.18 CRITERION= .3321
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1226
 HT FLOW CONVERGENCE VALUE= .8069E-01 CRITERION= .3289 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 57
 *** TIME = .654408E+07 TIME INC = 116266.
 *** RESPONSE EIGENVALUE = .4312E-05 OSCILLATION LIMIT = .5014
 *** AUTO STEP TIME: NEXT TIME INC = .11627E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.15 CRITERION= .3320
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1225
 HT FLOW CONVERGENCE VALUE= .8828E-01 CRITERION= .3288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 58
 *** TIME = .666035E+07 TIME INC = 116266.
 *** RESPONSE EIGENVALUE = .3345E-05 OSCILLATION LIMIT = .3889
 *** AUTO STEP TIME: NEXT TIME INC = .11627E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.20 CRITERION= .3319
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1227
 HT FLOW CONVERGENCE VALUE= .8289E-01 CRITERION= .3288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 59
 *** TIME = .677661E+07 TIME INC = 116266.
 *** RESPONSE EIGENVALUE = .2978E-05 OSCILLATION LIMIT = .3462
 *** AUTO STEP TIME: NEXT TIME INC = .11627E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.17 CRITERION= .3318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1225
 HT FLOW CONVERGENCE VALUE= .8762E-01 CRITERION= .3287 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 60
 *** TIME = .689288E+07 TIME INC = 116266.
 *** RESPONSE EIGENVALUE = .3540E-05 OSCILLATION LIMIT = .4116
 *** AUTO STEP TIME: NEXT TIME INC = .11627E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.22 CRITERION= .3318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1228
 HT FLOW CONVERGENCE VALUE= .8460E-01 CRITERION= .3286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 61
 *** TIME = .700915E+07 TIME INC = 116266.
 *** RESPONSE EIGENVALUE = .2696E-05 OSCILLATION LIMIT = .3134
 *** AUTO STEP TIME: NEXT TIME INC = .11627E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.19 CRITERION= .3317
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1225
 HT FLOW CONVERGENCE VALUE= .8762E-01 CRITERION= .3285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 62
 *** TIME = .712541E+07 TIME INC = 116266.
 *** RESPONSE EIGENVALUE = .3364E-05 OSCILLATION LIMIT = .3912
 *** AUTO STEP TIME: NEXT TIME INC = .11627E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 45.24 CRITERION= .3316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1228
 HT FLOW CONVERGENCE VALUE= .8459E-01 CRITERION= .3285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP      6  SUBSTEP      8  COMPLETED.    CUM ITER =    63
*** TIME = .724168E+07    TIME INC = 116266.
*** RESPONSE EIGENVALUE = .2565E-05    OSCILLATION LIMIT = .2982
*** AUTO TIME STEP: NEXT TIME INC = .19496E+06    INCREASED (FACTOR = 1.6769)

    HT FLOW CONVERGENCE VALUE= 75.81    CRITERION= .3371
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2055
    HT FLOW CONVERGENCE VALUE= .1480    CRITERION= .3284    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP      9  COMPLETED.    CUM ITER =    64
*** TIME = .743664E+07    TIME INC = 194964.
*** RESPONSE EIGENVALUE = .1828E-05    OSCILLATION LIMIT = .3565
*** AUTO STEP TIME: NEXT TIME INC = .19496E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.87    CRITERION= .3370
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2058
    HT FLOW CONVERGENCE VALUE= .1434    CRITERION= .3283    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP     10  COMPLETED.    CUM ITER =    65
*** TIME = .763160E+07    TIME INC = 194964.
*** RESPONSE EIGENVALUE = .1980E-05    OSCILLATION LIMIT = .3861
*** AUTO STEP TIME: NEXT TIME INC = .19496E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.86    CRITERION= .3370
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2055
    HT FLOW CONVERGENCE VALUE= .1436    CRITERION= .3282    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP     11  COMPLETED.    CUM ITER =    66
*** TIME = .782657E+07    TIME INC = 194964.
*** RESPONSE EIGENVALUE = .2771E-05    OSCILLATION LIMIT = .5402
*** AUTO STEP TIME: NEXT TIME INC = .19496E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.92    CRITERION= .3368
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2057
    HT FLOW CONVERGENCE VALUE= .1424    CRITERION= .3281    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP     12  COMPLETED.    CUM ITER =    67
*** TIME = .802153E+07    TIME INC = 194964.
*** RESPONSE EIGENVALUE = .2079E-05    OSCILLATION LIMIT = .4054
*** AUTO STEP TIME: NEXT TIME INC = .19496E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.91    CRITERION= .3368
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2055
    HT FLOW CONVERGENCE VALUE= .1439    CRITERION= .3279    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP     13  COMPLETED.    CUM ITER =    68
*** TIME = .821649E+07    TIME INC = 194964.
*** RESPONSE EIGENVALUE = .2598E-05    OSCILLATION LIMIT = .5066
*** AUTO STEP TIME: NEXT TIME INC = .19496E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.97    CRITERION= .3366
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2057
    HT FLOW CONVERGENCE VALUE= .1422    CRITERION= .3279    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP     14  COMPLETED.    CUM ITER =    69
*** TIME = .841146E+07    TIME INC = 194964.
*** RESPONSE EIGENVALUE = .2132E-05    OSCILLATION LIMIT = .4157
*** AUTO STEP TIME: NEXT TIME INC = .19496E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 75.96    CRITERION= .3365
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2055
    HT FLOW CONVERGENCE VALUE= .1449    CRITERION= .3277    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      6  SUBSTEP     15  COMPLETED.    CUM ITER =    70
*** TIME = .860642E+07    TIME INC = 194964.
*** RESPONSE EIGENVALUE = .2520E-05    OSCILLATION LIMIT = .4913
*** AUTO STEP TIME: NEXT TIME INC = .19496E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 76.02    CRITERION= .3364
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2057

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HT FLOW CONVERGENCE VALUE= .1430 CRITERION= .3276 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 16 COMPLETED. CUM ITER = 71
 *** TIME = .880139E+07 TIME INC = 194964.
 *** RESPONSE EIGENVALUE = .2142E-05 OSCILLATION LIMIT = .4176
 *** AUTO STEP TIME: NEXT TIME INC = .19496E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.01 CRITERION= .3363
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2055
 HT FLOW CONVERGENCE VALUE= .1446 CRITERION= .3275 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 17 COMPLETED. CUM ITER = 72
 *** TIME = .899635E+07 TIME INC = 194964.
 *** RESPONSE EIGENVALUE = .2475E-05 OSCILLATION LIMIT = .4826
 *** AUTO STEP TIME: NEXT TIME INC = .19496E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.07 CRITERION= .3362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2057
 HT FLOW CONVERGENCE VALUE= .1437 CRITERION= .3274 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 18 COMPLETED. CUM ITER = 73
 *** TIME = .919131E+07 TIME INC = 194964.
 *** RESPONSE EIGENVALUE = .2140E-05 OSCILLATION LIMIT = .4171
 *** AUTO STEP TIME: NEXT TIME INC = .19496E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 76.06 CRITERION= .3361
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2055
 HT FLOW CONVERGENCE VALUE= .1466 CRITERION= .3273 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 19 COMPLETED. CUM ITER = 74
 *** TIME = .938628E+07 TIME INC = 194964.
 *** RESPONSE EIGENVALUE = .2443E-05 OSCILLATION LIMIT = .4763
 *** AUTO TIME STEP: NEXT TIME INC = 81036. DECREASED (FACTOR = .4156)

HT FLOW CONVERGENCE VALUE= 31.67 CRITERION= .3288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8571E-01
 HT FLOW CONVERGENCE VALUE= .5695E-01 CRITERION= .3272 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 20 COMPLETED. CUM ITER = 75
 *** TIME = .946731E+07 TIME INC = 81035.8
 *** RESPONSE EIGENVALUE = .5410E-05 OSCILLATION LIMIT = .4384

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:57:00 JUN 13, 1995 CP= 4291.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 23.47 CRITERION= .3280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6349E-01
 HT FLOW CONVERGENCE VALUE= .4473E-01 CRITERION= .3271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 76
 *** TIME = .954835E+07 TIME INC = 81035.8
 *** RESPONSE EIGENVALUE = .5215E-05 OSCILLATION LIMIT = .4226
 *** AUTO STEP TIME: NEXT TIME INC = 81036. UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.50 CRITERION= .3280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6360E-01
 HT FLOW CONVERGENCE VALUE= .4316E-01 CRITERION= .3271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 77
 *** TIME = .962938E+07 TIME INC = 81035.8
 *** RESPONSE EIGENVALUE = .4068E-05 OSCILLATION LIMIT = .3296
 *** AUTO STEP TIME: NEXT TIME INC = 81036. UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.48 CRITERION= .3279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6349E-01
 HT FLOW CONVERGENCE VALUE= .4494E-01 CRITERION= .3270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 78
 *** TIME = .971042E+07 TIME INC = 81035.8
 *** RESPONSE EIGENVALUE = .4324E-05 OSCILLATION LIMIT = .3504
 *** AUTO STEP TIME: NEXT TIME INC = 81036. UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.51 CRITERION= .3279
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6362E-01
 HT FLOW CONVERGENCE VALUE= .4350E-01 CRITERION= .3270 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 79
 *** TIME = .979145E+07 TIME INC = 81035.8
 *** RESPONSE EIGENVALUE = .3561E-05 OSCILLATION LIMIT = .2886
 *** AUTO TIME STEP: NEXT TIME INC = .14040E+06 INCREASED (FACTOR = 1.7325)

HT FLOW CONVERGENCE VALUE= 40.68 CRITERION= .3295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7830E-01 CRITERION= .3269 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 80
 *** TIME = .993185E+07 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .2469E-05 OSCILLATION LIMIT = .3466
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.71 CRITERION= .3295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7684E-01 CRITERION= .3269 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 81
 *** TIME = .100722E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .2597E-05 OSCILLATION LIMIT = .3646
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.70 CRITERION= .3294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7703E-01 CRITERION= .3268 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 82
 *** TIME = .102126E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .3538E-05 OSCILLATION LIMIT = .4967
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.73 CRITERION= .3293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7655E-01 CRITERION= .3267 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 83
 *** TIME = .103530E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .2810E-05 OSCILLATION LIMIT = .3945
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.71 CRITERION= .3293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7724E-01 CRITERION= .3266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 84
 *** TIME = .104934E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .3303E-05 OSCILLATION LIMIT = .4638
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.74 CRITERION= .3292
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7693E-01 CRITERION= .3266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 85
 *** TIME = .106338E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .2872E-05 OSCILLATION LIMIT = .4032

*** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.73 CRITERION= .3291
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7866E-01 CRITERION= .3265 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 86
 *** TIME = .107742E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .3228E-05 OSCILLATION LIMIT = .4532
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.76 CRITERION= .3290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7838E-01 CRITERION= .3264 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 87
 *** TIME = .109146E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .2879E-05 OSCILLATION LIMIT = .4042
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.74 CRITERION= .3290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7905E-01 CRITERION= .3263 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 88
 *** TIME = .110550E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .3190E-05 OSCILLATION LIMIT = .4479
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.77 CRITERION= .3289
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7833E-01 CRITERION= .3263 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 89
 *** TIME = .111954E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .2876E-05 OSCILLATION LIMIT = .4038
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.76 CRITERION= .3288
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7894E-01 CRITERION= .3262 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 90
 *** TIME = .113358E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .3156E-05 OSCILLATION LIMIT = .4430
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.79 CRITERION= .3287
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7822E-01 CRITERION= .3261 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 16 COMPLETED. CUM ITER = 91
 *** TIME = .114762E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .2869E-05 OSCILLATION LIMIT = .4029
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.77 CRITERION= .3287
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7864E-01 CRITERION= .3260 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 17 COMPLETED. CUM ITER = 92
 *** TIME = .116166E+08 TIME INC = 140396.
 *** RESPONSE EIGENVALUE = .3127E-05 OSCILLATION LIMIT = .4390
 *** AUTO STEP TIME: NEXT TIME INC = .14040E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.80 CRITERION= .3286
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
 HT FLOW CONVERGENCE VALUE= .7861E-01 CRITERION= .3260 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 18 COMPLETED. CUM ITER = 93

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*** TIME = .117570E+08    TIME INC = 140396.
*** RESPONSE EIGENVALUE = .2864E-05    OSCILLATION LIMIT = .4021
*** AUTO STEP TIME: NEXT TIME INC = .14040E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.79    CRITERION= .3285
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
    HT FLOW CONVERGENCE VALUE= .7978E-01    CRITERION= .3259    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 19 COMPLETED. CUM ITER = 94
*** TIME = .118974E+08    TIME INC = 140396.
*** RESPONSE EIGENVALUE = .3104E-05    OSCILLATION LIMIT = .4357
*** AUTO STEP TIME: NEXT TIME INC = .14040E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.82    CRITERION= .3284
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
    HT FLOW CONVERGENCE VALUE= .7928E-01    CRITERION= .3258    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 20 COMPLETED. CUM ITER = 95
*** TIME = .120378E+08    TIME INC = 140396.
*** RESPONSE EIGENVALUE = .2863E-05    OSCILLATION LIMIT = .4020
*** AUTO STEP TIME: NEXT TIME INC = .14040E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.80    CRITERION= .3284
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
    HT FLOW CONVERGENCE VALUE= .7970E-01    CRITERION= .3257    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 21 COMPLETED. CUM ITER = 96
*** TIME = .121782E+08    TIME INC = 140396.
*** RESPONSE EIGENVALUE = .3082E-05    OSCILLATION LIMIT = .4327
*** AUTO STEP TIME: NEXT TIME INC = .14040E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.83    CRITERION= .3283
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
    HT FLOW CONVERGENCE VALUE= .8031E-01    CRITERION= .3257    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 22 COMPLETED. CUM ITER = 97
*** TIME = .123186E+08    TIME INC = 140396.
*** RESPONSE EIGENVALUE = .2857E-05    OSCILLATION LIMIT = .4011
*** AUTO STEP TIME: NEXT TIME INC = .14040E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 40.81    CRITERION= .3282
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1100
    HT FLOW CONVERGENCE VALUE= .8078E-01    CRITERION= .3256    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 23 COMPLETED. CUM ITER = 98
*** TIME = .124590E+08    TIME INC = 140396.
*** RESPONSE EIGENVALUE = .3064E-05    OSCILLATION LIMIT = .4302
*** AUTO TIME STEP: NEXT TIME INC = 82044.    DECREASED (FACTOR = .5844)

    HT FLOW CONVERGENCE VALUE= 23.88    CRITERION= .3265
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6439E-01
    HT FLOW CONVERGENCE VALUE= .4570E-01    CRITERION= .3255    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 24 COMPLETED. CUM ITER = 99
*** TIME = .125410E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4599E-05    OSCILLATION LIMIT = .3773
*** AUTO STEP TIME: NEXT TIME INC = 82044.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 23.86    CRITERION= .3264
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6428E-01
    HT FLOW CONVERGENCE VALUE= .4637E-01    CRITERION= .3255    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 25 COMPLETED. CUM ITER = 100
*** TIME = .126231E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4267E-05    OSCILLATION LIMIT = .3500

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 02:24:28 JUN 13, 1995 CP= 5903.810
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 19.09 CRITERION= .3260
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5168E-01
HT FLOW CONVERGENCE VALUE= .3826E-01 CRITERION= .3255 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 101
*** TIME = .127051E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .2639E-05 OSCILLATION LIMIT = .2165
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.06 CRITERION= .3260
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3642E-01 CRITERION= .3254 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 102
*** TIME = .127872E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .5665E-05 OSCILLATION LIMIT = .4648
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.09 CRITERION= .3259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5158E-01
HT FLOW CONVERGENCE VALUE= .3709E-01 CRITERION= .3254 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 103
*** TIME = .128692E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3851E-05 OSCILLATION LIMIT = .3159
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.06 CRITERION= .3259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3697E-01 CRITERION= .3253 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 104
*** TIME = .129512E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4526E-05 OSCILLATION LIMIT = .3713
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.09 CRITERION= .3259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5156E-01
HT FLOW CONVERGENCE VALUE= .3698E-01 CRITERION= .3253 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 105
*** TIME = .130333E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4016E-05 OSCILLATION LIMIT = .3295
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.06 CRITERION= .3258
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3693E-01 CRITERION= .3252 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 106
*** TIME = .131153E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4407E-05 OSCILLATION LIMIT = .3616
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.09 CRITERION= .3258
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5155E-01
HT FLOW CONVERGENCE VALUE= .3706E-01 CRITERION= .3252 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 107
*** TIME = .131974E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4002E-05 OSCILLATION LIMIT = .3283
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.07 CRITERION= .3258

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3748E-01 CRITERION= .3251 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 108
*** TIME = .132794E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4335E-05 OSCILLATION LIMIT = .3556
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.10 CRITERION= .3257
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5154E-01
HT FLOW CONVERGENCE VALUE= .3766E-01 CRITERION= .3251 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 109
*** TIME = .133615E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3986E-05 OSCILLATION LIMIT = .3270
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.07 CRITERION= .3257
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3760E-01 CRITERION= .3250 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 110
*** TIME = .134435E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4280E-05 OSCILLATION LIMIT = .3511
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.10 CRITERION= .3256
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5153E-01
HT FLOW CONVERGENCE VALUE= .3766E-01 CRITERION= .3250 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 111
*** TIME = .135256E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3966E-05 OSCILLATION LIMIT = .3254
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.07 CRITERION= .3256
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3803E-01 CRITERION= .3250 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 112
*** TIME = .136076E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4228E-05 OSCILLATION LIMIT = .3469
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.10 CRITERION= .3255
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5152E-01
HT FLOW CONVERGENCE VALUE= .3810E-01 CRITERION= .3249 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 113
*** TIME = .136896E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3948E-05 OSCILLATION LIMIT = .3239
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.08 CRITERION= .3255
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3802E-01 CRITERION= .3249 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 114
*** TIME = .137717E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4190E-05 OSCILLATION LIMIT = .3438
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.11 CRITERION= .3254
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5151E-01
HT FLOW CONVERGENCE VALUE= .3809E-01 CRITERION= .3249 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 115
*** TIME = .138537E+08 TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3927E-05 OSCILLATION LIMIT = .3222
*** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 19.08 CRITERION= .3254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
 HT FLOW CONVERGENCE VALUE= .3801E-01 CRITERION= .3248 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 116
 *** TIME = .139358E+08 TIME INC = 82043.7
 *** RESPONSE EIGENVALUE = .4150E-05 OSCILLATION LIMIT = .3405
 *** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.11 CRITERION= .3254
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5150E-01
 HT FLOW CONVERGENCE VALUE= .3809E-01 CRITERION= .3248 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 117
 *** TIME = .140178E+08 TIME INC = 82043.7
 *** RESPONSE EIGENVALUE = .3905E-05 OSCILLATION LIMIT = .3204
 *** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.08 CRITERION= .3253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
 HT FLOW CONVERGENCE VALUE= .3794E-01 CRITERION= .3247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 18 COMPLETED. CUM ITER = 118
 *** TIME = .140999E+08 TIME INC = 82043.7
 *** RESPONSE EIGENVALUE = .4115E-05 OSCILLATION LIMIT = .3376
 *** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.11 CRITERION= .3253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5150E-01
 HT FLOW CONVERGENCE VALUE= .3799E-01 CRITERION= .3247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 19 COMPLETED. CUM ITER = 119
 *** TIME = .141819E+08 TIME INC = 82043.7
 *** RESPONSE EIGENVALUE = .3884E-05 OSCILLATION LIMIT = .3187
 *** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.09 CRITERION= .3253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
 HT FLOW CONVERGENCE VALUE= .3790E-01 CRITERION= .3246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 20 COMPLETED. CUM ITER = 120
 *** TIME = .142639E+08 TIME INC = 82043.7
 *** RESPONSE EIGENVALUE = .4084E-05 OSCILLATION LIMIT = .3351
 *** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.12 CRITERION= .3252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5149E-01
 HT FLOW CONVERGENCE VALUE= .3806E-01 CRITERION= .3246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 21 COMPLETED. CUM ITER = 121
 *** TIME = .143460E+08 TIME INC = 82043.7
 *** RESPONSE EIGENVALUE = .3866E-05 OSCILLATION LIMIT = .3172
 *** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.09 CRITERION= .3252
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
 HT FLOW CONVERGENCE VALUE= .3830E-01 CRITERION= .3245 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 22 COMPLETED. CUM ITER = 122
 *** TIME = .144280E+08 TIME INC = 82043.7
 *** RESPONSE EIGENVALUE = .4054E-05 OSCILLATION LIMIT = .3326
 *** AUTO STEP TIME: NEXT TIME INC = 82044. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.12 CRITERION= .3251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5148E-01
 HT FLOW CONVERGENCE VALUE= .3839E-01 CRITERION= .3245 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 23 COMPLETED. CUM ITER = 123
 *** TIME = .145101E+08 TIME INC = 82043.7

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*** RESPONSE EIGENVALUE = .3848E-05  OSCILLATION LIMIT = .3157
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.09  CRITERION= .3251
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3829E-01 CRITERION= .3245  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 24 COMPLETED.  CUM ITER = 124
*** TIME = .145921E+08  TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4029E-05  OSCILLATION LIMIT = .3305
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.12  CRITERION= .3250
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5147E-01
HT FLOW CONVERGENCE VALUE= .3839E-01 CRITERION= .3244  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 25 COMPLETED.  CUM ITER = 125
*** TIME = .146742E+08  TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3829E-05  OSCILLATION LIMIT = .3142
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.10  CRITERION= .3250
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3829E-01 CRITERION= .3244  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 26 COMPLETED.  CUM ITER = 126
*** TIME = .147562E+08  TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .4002E-05  OSCILLATION LIMIT = .3283
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.12  CRITERION= .3249
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5146E-01
HT FLOW CONVERGENCE VALUE= .3838E-01 CRITERION= .3244  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 27 COMPLETED.  CUM ITER = 127
*** TIME = .148383E+08  TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3811E-05  OSCILLATION LIMIT = .3126
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.10  CRITERION= .3249
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3828E-01 CRITERION= .3243  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 28 COMPLETED.  CUM ITER = 128
*** TIME = .149203E+08  TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3977E-05  OSCILLATION LIMIT = .3263
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.13  CRITERION= .3248
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5146E-01
HT FLOW CONVERGENCE VALUE= .3837E-01 CRITERION= .3243  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 29 COMPLETED.  CUM ITER = 129
*** TIME = .150023E+08  TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3794E-05  OSCILLATION LIMIT = .3112
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.10  CRITERION= .3248
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
HT FLOW CONVERGENCE VALUE= .3827E-01 CRITERION= .3242  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 30 COMPLETED.  CUM ITER = 130
*** TIME = .150844E+08  TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3954E-05  OSCILLATION LIMIT = .3244
*** AUTO STEP TIME:  NEXT TIME INC = 82044.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.13  CRITERION= .3248
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5145E-01
HT FLOW CONVERGENCE VALUE= .3836E-01 CRITERION= .3242  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP      8  SUBSTEP    31 COMPLETED.    CUM ITER =   131
*** TIME = .151664E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3777E-05    OSCILLATION LIMIT = .3099
*** AUTO STEP TIME: NEXT TIME INC = 82044.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.11    CRITERION= .3247
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
    HT FLOW CONVERGENCE VALUE= .3826E-01 CRITERION= .3241    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    32 COMPLETED.    CUM ITER =   132
*** TIME = .152485E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3933E-05    OSCILLATION LIMIT = .3227
*** AUTO STEP TIME: NEXT TIME INC = 82044.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.13    CRITERION= .3247
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5144E-01
    HT FLOW CONVERGENCE VALUE= .3866E-01 CRITERION= .3241    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    33 COMPLETED.    CUM ITER =   133
*** TIME = .153305E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3761E-05    OSCILLATION LIMIT = .3086
*** AUTO STEP TIME: NEXT TIME INC = 82044.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.11    CRITERION= .3247
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
    HT FLOW CONVERGENCE VALUE= .3867E-01 CRITERION= .3240    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    34 COMPLETED.    CUM ITER =   134
*** TIME = .154126E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3915E-05    OSCILLATION LIMIT = .3212
*** AUTO STEP TIME: NEXT TIME INC = 82044.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.14    CRITERION= .3246
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5144E-01
    HT FLOW CONVERGENCE VALUE= .3875E-01 CRITERION= .3240    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    35 COMPLETED.    CUM ITER =   135
*** TIME = .154946E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3750E-05    OSCILLATION LIMIT = .3077
*** AUTO STEP TIME: NEXT TIME INC = 82044.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.11    CRITERION= .3246
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5136E-01
    HT FLOW CONVERGENCE VALUE= .3866E-01 CRITERION= .3239    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    36 COMPLETED.    CUM ITER =   136
*** TIME = .155766E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3897E-05    OSCILLATION LIMIT = .3197
*** AUTO STEP TIME: NEXT TIME INC = 82044.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.14    CRITERION= .3245
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5143E-01
    HT FLOW CONVERGENCE VALUE= .3877E-01 CRITERION= .3239    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    37 COMPLETED.    CUM ITER =   137
*** TIME = .156587E+08    TIME INC = 82043.7
*** RESPONSE EIGENVALUE = .3736E-05    OSCILLATION LIMIT = .3065
*** AUTO STEP TIME: NEXT TIME INC = 60071.    DECREASED (FACTOR = .7322)

    HT FLOW CONVERGENCE VALUE= 14.00    CRITERION= .3242
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3760E-01
    HT FLOW CONVERGENCE VALUE= .2798E-01 CRITERION= .3239    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP      8  SUBSTEP    38 COMPLETED.    CUM ITER =   138
*** TIME = .157188E+08    TIME INC = 60071.0
*** RESPONSE EIGENVALUE = .4968E-05    OSCILLATION LIMIT = .2984
*** AUTO STEP TIME: NEXT TIME INC = 60071.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.02    CRITERION= .3242
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3770E-01

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HT FLOW CONVERGENCE VALUE= .2814E-01 CRITERION= .3239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 39 COMPLETED. CUM ITER = 139
 *** TIME = .157788E+08 TIME INC = 60071.0
 *** RESPONSE EIGENVALUE = .4455E-05 OSCILLATION LIMIT = .2676

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:06:56 JUN 13, 1995 CP= 8415.470
 FOR SUPPORT CALL ROBERT BANNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 15.24 CRITERION= .3242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3147E-01 CRITERION= .3238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 140
 *** TIME = .158577E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .3069E-05 OSCILLATION LIMIT = .2421
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.26 CRITERION= .3242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3022E-01 CRITERION= .3238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 141
 *** TIME = .159366E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5165E-05 OSCILLATION LIMIT = .4075
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.24 CRITERION= .3242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3042E-01 CRITERION= .3237 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 142
 *** TIME = .160155E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4805E-05 OSCILLATION LIMIT = .3791
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.26 CRITERION= .3241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3037E-01 CRITERION= .3237 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 143
 *** TIME = .160944E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4714E-05 OSCILLATION LIMIT = .3719
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.24 CRITERION= .3241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3040E-01 CRITERION= .3237 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 144
 *** TIME = .161733E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4828E-05 OSCILLATION LIMIT = .3809
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.26 CRITERION= .3240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .3236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 145
 *** TIME = .162522E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4686E-05 OSCILLATION LIMIT = .3697
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .3240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3038E-01 CRITERION= .3236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 146
 *** TIME = .163311E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4814E-05 OSCILLATION LIMIT = .3798.
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27 CRITERION= .3239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .3236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 147
 *** TIME = .164100E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4661E-05 OSCILLATION LIMIT = .3677
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .3239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3039E-01 CRITERION= .3235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 148
 *** TIME = .164889E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4797E-05 OSCILLATION LIMIT = .3785
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27 CRITERION= .3239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3037E-01 CRITERION= .3235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 149
 *** TIME = .165678E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4641E-05 OSCILLATION LIMIT = .3662
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .3238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3037E-01 CRITERION= .3234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 150
 *** TIME = .166467E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4782E-05 OSCILLATION LIMIT = .3772
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27 CRITERION= .3238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3037E-01 CRITERION= .3234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 151
 *** TIME = .167256E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4624E-05 OSCILLATION LIMIT = .3648
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25 CRITERION= .3238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .3233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 152
 *** TIME = .168045E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4764E-05 OSCILLATION LIMIT = .3758
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27 CRITERION= .3237
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3036E-01 CRITERION= .3233 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 153
 *** TIME = .168833E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4609E-05 OSCILLATION LIMIT = .3636

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*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.25      CRITERION= .3237
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3035E-01 CRITERION= .3233      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 154
*** TIME = .169622E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4746E-05 OSCILLATION LIMIT = .3744
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27      CRITERION= .3236
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3035E-01 CRITERION= .3232      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 155
*** TIME = .170411E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4594E-05 OSCILLATION LIMIT = .3624
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.26      CRITERION= .3236
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3043E-01 CRITERION= .3232      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 156
*** TIME = .171200E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4728E-05 OSCILLATION LIMIT = .3730
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.28      CRITERION= .3236
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3046E-01 CRITERION= .3232      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 157
*** TIME = .171989E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4579E-05 OSCILLATION LIMIT = .3612
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.26      CRITERION= .3235
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3048E-01 CRITERION= .3231      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 158
*** TIME = .172778E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4710E-05 OSCILLATION LIMIT = .3716
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.28      CRITERION= .3235
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3048E-01 CRITERION= .3231      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 159
*** TIME = .173567E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4566E-05 OSCILLATION LIMIT = .3603
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.26      CRITERION= .3234
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3047E-01 CRITERION= .3230      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 160
*** TIME = .174356E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4697E-05 OSCILLATION LIMIT = .3705
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.28      CRITERION= .3234
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3020E-01 CRITERION= .3230      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 161

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*** TIME = .175145E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4554E-05    OSCILLATION LIMIT = .3593
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.26    CRITERION= .3234
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3018E-01 CRITERION= .3230    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 23 COMPLETED.    CUM ITER = 162
*** TIME = .175934E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4682E-05    OSCILLATION LIMIT = .3694
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.28    CRITERION= .3233
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3020E-01 CRITERION= .3229    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 24 COMPLETED.    CUM ITER = 163
*** TIME = .176723E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4544E-05    OSCILLATION LIMIT = .3585
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.26    CRITERION= .3233
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3019E-01 CRITERION= .3229    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 25 COMPLETED.    CUM ITER = 164
*** TIME = .177512E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4669E-05    OSCILLATION LIMIT = .3683
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.28    CRITERION= .3232
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3021E-01 CRITERION= .3229    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 26 COMPLETED.    CUM ITER = 165
*** TIME = .178301E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4535E-05    OSCILLATION LIMIT = .3578
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.27    CRITERION= .3232
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3021E-01 CRITERION= .3228    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 27 COMPLETED.    CUM ITER = 166
*** TIME = .179090E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4656E-05    OSCILLATION LIMIT = .3673
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.29    CRITERION= .3232
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3034E-01 CRITERION= .3228    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 28 COMPLETED.    CUM ITER = 167
*** TIME = .179879E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4523E-05    OSCILLATION LIMIT = .3569
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.27    CRITERION= .3231
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3046E-01 CRITERION= .3227    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 29 COMPLETED.    CUM ITER = 168
*** TIME = .180668E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4641E-05    OSCILLATION LIMIT = .3662
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 15.29    CRITERION= .3231
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
    HT FLOW CONVERGENCE VALUE= .3049E-01 CRITERION= .3227    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 30 COMPLETED. CUM ITER = 169
*** TIME = .181457E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4512E-05 OSCILLATION LIMIT = .3560
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27 CRITERION= .3231
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3047E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 31 COMPLETED. CUM ITER = 170
*** TIME = .182245E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4628E-05 OSCILLATION LIMIT = .3651
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.29 CRITERION= .3230
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3048E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 32 COMPLETED. CUM ITER = 171
*** TIME = .183034E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4501E-05 OSCILLATION LIMIT = .3551
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27 CRITERION= .3230
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3047E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 33 COMPLETED. CUM ITER = 172
*** TIME = .183823E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4615E-05 OSCILLATION LIMIT = .3641
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.29 CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3047E-01 CRITERION= .3225 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 34 COMPLETED. CUM ITER = 173
*** TIME = .184612E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4492E-05 OSCILLATION LIMIT = .3544
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.27 CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3044E-01 CRITERION= .3225 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 35 COMPLETED. CUM ITER = 174
*** TIME = .185401E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4603E-05 OSCILLATION LIMIT = .3631
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.29 CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3043E-01 CRITERION= .3225 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 36 COMPLETED. CUM ITER = 175
*** TIME = .186190E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4482E-05 OSCILLATION LIMIT = .3536
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.28 CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
HT FLOW CONVERGENCE VALUE= .3045E-01 CRITERION= .3224 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 37 COMPLETED. CUM ITER = 176
*** TIME = .186979E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4591E-05 OSCILLATION LIMIT = .3622
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.30 CRITERION= .3228

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3046E-01 CRITERION= .3224 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 38 COMPLETED. CUM ITER = 177
 *** TIME = .187768E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4471E-05 OSCILLATION LIMIT = .3528
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.28 CRITERION= .3227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3044E-01 CRITERION= .3223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 39 COMPLETED. CUM ITER = 178
 *** TIME = .188557E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4578E-05 OSCILLATION LIMIT = .3612
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.30 CRITERION= .3227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4100E-01
 HT FLOW CONVERGENCE VALUE= .3045E-01 CRITERION= .3223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 40 COMPLETED. CUM ITER = 179
 *** TIME = .189346E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4463E-05 OSCILLATION LIMIT = .3521

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 03:50:31 JUN 13, 1995 CP= 10991.380
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 13.14 CRITERION= .3226
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2634E-01 CRITERION= .3223 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 180
 *** TIME = .190135E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4484E-05 OSCILLATION LIMIT = .3537
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.15 CRITERION= .3225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2554E-01 CRITERION= .3222 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 181
 *** TIME = .190924E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6195E-05 OSCILLATION LIMIT = .4887
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.14 CRITERION= .3225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2590E-01 CRITERION= .3222 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 182
 *** TIME = .191713E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5377E-05 OSCILLATION LIMIT = .4242
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2577E-01 CRITERION= .3222 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 183
 *** TIME = .192502E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5467E-05 OSCILLATION LIMIT = .4313
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.14 CRITERION= .3224
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2584E-01 CRITERION= .3221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 184
 *** TIME = .193291E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5516E-05 OSCILLATION LIMIT = .4352
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3224
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2577E-01 CRITERION= .3221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 185
 *** TIME = .194080E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5431E-05 OSCILLATION LIMIT = .4285
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.14 CRITERION= .3223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2573E-01 CRITERION= .3220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 186
 *** TIME = .194868E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5511E-05 OSCILLATION LIMIT = .4348
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .3220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 187
 *** TIME = .195657E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5415E-05 OSCILLATION LIMIT = .4272
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.15 CRITERION= .3223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2574E-01 CRITERION= .3220 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 188
 *** TIME = .196446E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5507E-05 OSCILLATION LIMIT = .4345
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .3219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 189
 *** TIME = .197235E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5405E-05 OSCILLATION LIMIT = .4264
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.15 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2573E-01 CRITERION= .3219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 190
 *** TIME = .198024E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5499E-05 OSCILLATION LIMIT = .4338
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .3219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 191
 *** TIME = .198813E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .5394E-05  OSCILLATION LIMIT = .4255
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.15    CRITERION= .3221
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2572E-01 CRITERION= .3218    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 192
*** TIME = .199602E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5488E-05  OSCILLATION LIMIT = .4330
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.16    CRITERION= .3221
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .3218    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 193
*** TIME = .200391E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5383E-05  OSCILLATION LIMIT = .4247
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.15    CRITERION= .3220
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2573E-01 CRITERION= .3217    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 194
*** TIME = .201180E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5478E-05  OSCILLATION LIMIT = .4322
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.17    CRITERION= .3220
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .3217    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 195
*** TIME = .201969E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5375E-05  OSCILLATION LIMIT = .4240
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.15    CRITERION= .3220
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2572E-01 CRITERION= .3217    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 196
*** TIME = .202758E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5468E-05  OSCILLATION LIMIT = .4314
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.17    CRITERION= .3219
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .3216    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 197
*** TIME = .203547E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5366E-05  OSCILLATION LIMIT = .4233
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.15    CRITERION= .3219
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2571E-01 CRITERION= .3216    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 198
*** TIME = .204336E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5457E-05  OSCILLATION LIMIT = .4305
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.17    CRITERION= .3218
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
    HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .3215    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 199
*** TIME = .205125E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5357E-05 OSCILLATION LIMIT = .4226
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.15 CRITERION= .3218
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .3215 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 200
*** TIME = .205914E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5446E-05 OSCILLATION LIMIT = .4297
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.17 CRITERION= .3218
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .3215 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 201
*** TIME = .206703E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5348E-05 OSCILLATION LIMIT = .4220
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3217
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .3214 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 202
*** TIME = .207492E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5437E-05 OSCILLATION LIMIT = .4290
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.17 CRITERION= .3217
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
HT FLOW CONVERGENCE VALUE= .2567E-01 CRITERION= .3214 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 203
*** TIME = .208280E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5341E-05 OSCILLATION LIMIT = .4214
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3217
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .3213 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 204
*** TIME = .209069E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5427E-05 OSCILLATION LIMIT = .4282
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.17 CRITERION= .3216
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .3213 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 205
*** TIME = .209858E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5333E-05 OSCILLATION LIMIT = .4207
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3216
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
HT FLOW CONVERGENCE VALUE= .2567E-01 CRITERION= .3213 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 27 COMPLETED. CUM ITER = 206
*** TIME = .210647E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5418E-05 OSCILLATION LIMIT = .4274
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.17 CRITERION= .3215
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01

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HT FLOW CONVERGENCE VALUE= .2559E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 28 COMPLETED. CUM ITER = 207
 *** TIME = .211436E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5326E-05 OSCILLATION LIMIT = .4202
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2561E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 29 COMPLETED. CUM ITER = 208
 *** TIME = .212225E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5410E-05 OSCILLATION LIMIT = .4268
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.18 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2558E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 30 COMPLETED. CUM ITER = 209
 *** TIME = .213014E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5319E-05 OSCILLATION LIMIT = .4197
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2560E-01 CRITERION= .3211 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 31 COMPLETED. CUM ITER = 210
 *** TIME = .213803E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5401E-05 OSCILLATION LIMIT = .4261
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.18 CRITERION= .3214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2558E-01 CRITERION= .3211 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 32 COMPLETED. CUM ITER = 211
 *** TIME = .214592E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5312E-05 OSCILLATION LIMIT = .4191
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.16 CRITERION= .3214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2559E-01 CRITERION= .3210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 33 COMPLETED. CUM ITER = 212
 *** TIME = .215381E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5393E-05 OSCILLATION LIMIT = .4254
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.18 CRITERION= .3213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2556E-01 CRITERION= .3210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 34 COMPLETED. CUM ITER = 213
 *** TIME = .216170E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5305E-05 OSCILLATION LIMIT = .4186
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.17 CRITERION= .3213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2558E-01 CRITERION= .3210 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 35 COMPLETED. CUM ITER = 214
 *** TIME = .216959E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5384E-05 OSCILLATION LIMIT = .4248
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.18 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2556E-01 CRITERION= .3209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 36 COMPLETED. CUM ITER = 215
 *** TIME = .217748E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5298E-05 OSCILLATION LIMIT = .4180
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.17 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2557E-01 CRITERION= .3209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 37 COMPLETED. CUM ITER = 216
 *** TIME = .218537E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5376E-05 OSCILLATION LIMIT = .4242
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.18 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2540E-01 CRITERION= .3209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 38 COMPLETED. CUM ITER = 217
 *** TIME = .219326E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5292E-05 OSCILLATION LIMIT = .4175
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.17 CRITERION= .3211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2531E-01 CRITERION= .3208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 39 COMPLETED. CUM ITER = 218
 *** TIME = .220115E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5369E-05 OSCILLATION LIMIT = .4236
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.18 CRITERION= .3211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3524E-01
 HT FLOW CONVERGENCE VALUE= .2529E-01 CRITERION= .3208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 40 COMPLETED. CUM ITER = 219
 *** TIME = .220904E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5287E-05 OSCILLATION LIMIT = .4171

***** ANSYS SOLVE COMM:IND *****
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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:34:05 JUN 13, 1995 CP= 13565.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 11.53 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2225E-01 CRITERION= .3208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 220
 *** TIME = .221692E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5327E-05 OSCILLATION LIMIT = .4203
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.54 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2165E-01 CRITERION= .3207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 221
 *** TIME = .222481E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7014E-05 OSCILLATION LIMIT = .5534

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*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.53      CRITERION= .3209
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2194E-01 CRITERION= .3207      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 222
*** TIME = .223270E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6203E-05 OSCILLATION LIMIT = .4894
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55      CRITERION= .3209
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .3206      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 223
*** TIME = .224059E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6325E-05 OSCILLATION LIMIT = .4990
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.53      CRITERION= .3208
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2190E-01 CRITERION= .3206      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 224
*** TIME = .224848E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6339E-05 OSCILLATION LIMIT = .5001
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55      CRITERION= .3208
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .3206      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 225
*** TIME = .225637E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6293E-05 OSCILLATION LIMIT = .4965
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.54      CRITERION= .3208
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2189E-01 CRITERION= .3205      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 226
*** TIME = .226426E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6338E-05 OSCILLATION LIMIT = .5000
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55      CRITERION= .3207
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .3205      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 227
*** TIME = .227215E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6279E-05 OSCILLATION LIMIT = .4954
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.54      CRITERION= .3207
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2188E-01 CRITERION= .3205      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 228
*** TIME = .228004E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6334E-05 OSCILLATION LIMIT = .4997
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55      CRITERION= .3207
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .3204      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 229

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*** TIME = .228793E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6269E-05    OSCILLATION LIMIT = .4946
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.54    CRITERION= .3206
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2187E-01 CRITERION= .3204    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED.    CUM ITER = 230
*** TIME = .229582E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6328E-05    OSCILLATION LIMIT = .4993
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.55    CRITERION= .3206
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2174E-01 CRITERION= .3203    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED.    CUM ITER = 231
*** TIME = .230371E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6260E-05    OSCILLATION LIMIT = .4939
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.54    CRITERION= .3206
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2165E-01 CRITERION= .3203    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED.    CUM ITER = 232
*** TIME = .231160E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6322E-05    OSCILLATION LIMIT = .4988
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.55    CRITERION= .3205
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .3203    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED.    CUM ITER = 233
*** TIME = .231949E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6254E-05    OSCILLATION LIMIT = .4934
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.54    CRITERION= .3205
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2165E-01 CRITERION= .3202    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED.    CUM ITER = 234
*** TIME = .232738E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6317E-05    OSCILLATION LIMIT = .4983
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.55    CRITERION= .3204
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .3202    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED.    CUM ITER = 235
*** TIME = .233527E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6247E-05    OSCILLATION LIMIT = .4929
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.54    CRITERION= .3204
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .3202    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED.    CUM ITER = 236
*** TIME = .234315E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6309E-05    OSCILLATION LIMIT = .4977
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.55    CRITERION= .3204
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
    HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .3201    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 237
*** TIME = .235104E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6241E-05 OSCILLATION LIMIT = .4924
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.54 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .3201 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 238
*** TIME = .235893E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6301E-05 OSCILLATION LIMIT = .4971
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2159E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 239
*** TIME = .236682E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6234E-05 OSCILLATION LIMIT = .4918
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.54 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2163E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 240
*** TIME = .237471E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6294E-05 OSCILLATION LIMIT = .4965
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3202
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 241
*** TIME = .238260E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6228E-05 OSCILLATION LIMIT = .4913
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.54 CRITERION= .3202
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2163E-01 CRITERION= .3199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 242
*** TIME = .239049E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6287E-05 OSCILLATION LIMIT = .4960
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .3199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 243
*** TIME = .239838E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6222E-05 OSCILLATION LIMIT = .4908
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2163E-01 CRITERION= .3199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 244
*** TIME = .240627E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6280E-05 OSCILLATION LIMIT = .4954
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3201

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2158E-01 CRITERION= .3198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 245
*** TIME = .241416E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6216E-05 OSCILLATION LIMIT = .4904
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2160E-01 CRITERION= .3198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 246
*** TIME = .242205E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6273E-05 OSCILLATION LIMIT = .4949
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2159E-01 CRITERION= .3198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 247
*** TIME = .242994E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6209E-05 OSCILLATION LIMIT = .4898
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2162E-01 CRITERION= .3197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 248
*** TIME = .243783E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6264E-05 OSCILLATION LIMIT = .4942
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3199
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2159E-01 CRITERION= .3197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 249
*** TIME = .244572E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6201E-05 OSCILLATION LIMIT = .4893
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3199
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2156E-01 CRITERION= .3196 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 31 COMPLETED. CUM ITER = 250
*** TIME = .245361E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6257E-05 OSCILLATION LIMIT = .4937
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3198
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2148E-01 CRITERION= .3196 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 32 COMPLETED. CUM ITER = 251
*** TIME = .246150E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6196E-05 OSCILLATION LIMIT = .4888
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3198
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
HT FLOW CONVERGENCE VALUE= .2151E-01 CRITERION= .3196 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 33 COMPLETED. CUM ITER = 252
*** TIME = .246939E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6252E-05 OSCILLATION LIMIT = .4933
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2148E-01 CRITERION= .3195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 34 COMPLETED. CUM ITER = 253
 *** TIME = .247727E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6192E-05 OSCILLATION LIMIT = .4885
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2143E-01 CRITERION= .3195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 35 COMPLETED. CUM ITER = 254
 *** TIME = .248516E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6247E-05 OSCILLATION LIMIT = .4928
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2126E-01 CRITERION= .3195 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 36 COMPLETED. CUM ITER = 255
 *** TIME = .249305E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6188E-05 OSCILLATION LIMIT = .4882
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2128E-01 CRITERION= .3194 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 37 COMPLETED. CUM ITER = 256
 *** TIME = .250094E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6244E-05 OSCILLATION LIMIT = .4926
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.56 CRITERION= .3196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2125E-01 CRITERION= .3194 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 38 COMPLETED. CUM ITER = 257
 *** TIME = .250883E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6185E-05 OSCILLATION LIMIT = .4880
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.55 CRITERION= .3196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2127E-01 CRITERION= .3193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 39 COMPLETED. CUM ITER = 258
 *** TIME = .251672E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6238E-05 OSCILLATION LIMIT = .4921
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.57 CRITERION= .3196
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3089E-01
 HT FLOW CONVERGENCE VALUE= .2125E-01 CRITERION= .3193 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 40 COMPLETED. CUM ITER = 259
 *** TIME = .252461E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6179E-05 OSCILLATION LIMIT = .4875

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:17:35 JUN 13, 1995 CP= 16139.850
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 10.24    CRITERION= .3195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1887E-01 CRITERION= .3193    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 260
*** TIME = .253250E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6313E-05 OSCILLATION LIMIT = .4980
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24    CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1836E-01 CRITERION= .3192    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 261
*** TIME = .254039E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8084E-05 OSCILLATION LIMIT = .6378
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24    CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1857E-01 CRITERION= .3192    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 262
*** TIME = .254828E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7231E-05 OSCILLATION LIMIT = .5705
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25    CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1843E-01 CRITERION= .3192    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 263
*** TIME = .255617E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7385E-05 OSCILLATION LIMIT = .5826
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24    CRITERION= .3193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1850E-01 CRITERION= .3191    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 264
*** TIME = .256406E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7368E-05 OSCILLATION LIMIT = .5813
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25    CRITERION= .3193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1842E-01 CRITERION= .3191    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 265
*** TIME = .257195E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7353E-05 OSCILLATION LIMIT = .5801
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24    CRITERION= .3193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1847E-01 CRITERION= .3191    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 266
*** TIME = .257984E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7370E-05 OSCILLATION LIMIT = .5814
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25    CRITERION= .3192
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1841E-01 CRITERION= .3190    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 267
 *** TIME = .258773E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7341E-05 OSCILLATION LIMIT = .5792
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1846E-01 CRITERION= .3190 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 268
 *** TIME = .259562E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7368E-05 OSCILLATION LIMIT = .5813
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1840E-01 CRITERION= .3190 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 269
 *** TIME = .260351E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7331E-05 OSCILLATION LIMIT = .5784
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1843E-01 CRITERION= .3189 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 270
 *** TIME = .261139E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7363E-05 OSCILLATION LIMIT = .5809
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1838E-01 CRITERION= .3189 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 271
 *** TIME = .261928E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7323E-05 OSCILLATION LIMIT = .5777
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1838E-01 CRITERION= .3188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 272
 *** TIME = .262717E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7357E-05 OSCILLATION LIMIT = .5804
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1836E-01 CRITERION= .3188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 273
 *** TIME = .263506E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7317E-05 OSCILLATION LIMIT = .5773
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1840E-01 CRITERION= .3188 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 274
 *** TIME = .264295E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7353E-05 OSCILLATION LIMIT = .5801
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01

HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .3187 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 275
 *** TIME = .265084E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7311E-05 OSCILLATION LIMIT = .5768
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1839E-01 CRITERION= .3187 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 276
 *** TIME = .265873E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7347E-05 OSCILLATION LIMIT = .5796
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .3187 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 277
 *** TIME = .266662E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7305E-05 OSCILLATION LIMIT = .5763
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1839E-01 CRITERION= .3186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 278
 *** TIME = .267451E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7341E-05 OSCILLATION LIMIT = .5791
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .3186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 279
 *** TIME = .268240E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7299E-05 OSCILLATION LIMIT = .5758
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.24 CRITERION= .3188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1839E-01 CRITERION= .3186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 280
 *** TIME = .269029E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7335E-05 OSCILLATION LIMIT = .5787
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 281
 *** TIME = .269818E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7293E-05 OSCILLATION LIMIT = .5754
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1838E-01 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 282
 *** TIME = .270607E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7329E-05 OSCILLATION LIMIT = .5782
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1835E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 283
 *** TIME = .271396E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7288E-05 OSCILLATION LIMIT = .5750
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1838E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 284
 *** TIME = .272185E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7323E-05 OSCILLATION LIMIT = .5778
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1834E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 285
 *** TIME = .272974E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7283E-05 OSCILLATION LIMIT = .5746
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1837E-01 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 286
 *** TIME = .273762E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7318E-05 OSCILLATION LIMIT = .5773
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1834E-01 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 287
 *** TIME = .274551E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7277E-05 OSCILLATION LIMIT = .5741
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3185
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1837E-01 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 288
 *** TIME = .275340E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7312E-05 OSCILLATION LIMIT = .5769
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1833E-01 CRITERION= .3182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 289
 *** TIME = .276129E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7272E-05 OSCILLATION LIMIT = .5737
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
 HT FLOW CONVERGENCE VALUE= .1832E-01 CRITERION= .3182 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 290
 *** TIME = .276918E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .7307E-05 OSCILLATION LIMIT = .5765

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1828E-01 CRITERION= .3182 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 291
*** TIME = .277707E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7268E-05 OSCILLATION LIMIT = .5734
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3183
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1826E-01 CRITERION= .3181 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 292
*** TIME = .278496E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7303E-05 OSCILLATION LIMIT = .5762
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3183
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1818E-01 CRITERION= .3181 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 293
*** TIME = .279285E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7264E-05 OSCILLATION LIMIT = .5731
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1820E-01 CRITERION= .3180 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 294
*** TIME = .280074E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7300E-05 OSCILLATION LIMIT = .5759
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1817E-01 CRITERION= .3180 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 295
*** TIME = .280863E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7261E-05 OSCILLATION LIMIT = .5728
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1819E-01 CRITERION= .3180 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 296
*** TIME = .281652E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7295E-05 OSCILLATION LIMIT = .5755
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.26 CRITERION= .3181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1817E-01 CRITERION= .3179 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 297
*** TIME = .282441E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7256E-05 OSCILLATION LIMIT = .5725
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.25 CRITERION= .3181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
HT FLOW CONVERGENCE VALUE= .1819E-01 CRITERION= .3179 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 39 COMPLETED. CUM ITER = 298


```

*** TIME = .283230E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7291E-05    OSCILLATION LIMIT = .5752
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.26    CRITERION= .3181
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2736E-01
    HT FLOW CONVERGENCE VALUE= .1817E-01    CRITERION= .3179    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 40 COMPLETED.    CUM ITER = 299
*** TIME = .284019E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7252E-05    OSCILLATION LIMIT = .5722
    Apply loads and solve for 1 to 9 years

```

```

*DO LOOP ON PARAMETER= TM    FROM .31558E+08 TO .28402E+09 BY .31558E+08
TIME= .31558E+08

```

```

SELECT    FOR ITEM=MAT COMPONENT=
IN RANGE  14 TO    14 STEP    1

```

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

```

SELECT    ELEMENTS CREATED FROM SELECTED AREAS.

```

```

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

```

```

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION    1
5654.64534    .000000000E+00    .000000000E+00    .000000000E+00

```

```

ALL SELECT    FOR ITEM=AREA COMPONENT=
IN RANGE      1 TO    94 STEP    1

```

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

```

ALL SELECT    FOR ITEM=ELEM COMPONENT=
IN RANGE      1 TO   5561 STEP    1

```

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

```

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES =    114.16    .00000E+00    EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES =    115.23    .00000E+00    EXPANSION KEY = 1

```

```

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES =    117.89    .00000E+00    EXPANSION KEY = 1

```

```

***** ANSYS SOLVE    COMMAND *****

```

```

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS    TRANSFERRED FROM KEYPOINTS    = 129

```

```

*** NOTE ***
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

```

```

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    06:01:09 JUN 13, 1995 CP= 18713.200
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

```

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

L O A D S T E P O P T I O N S

```

LOAD STEP NUMBER. . . . . 13
TIME AT END OF THE LOAD STEP. . . . . .31558E+08
AUTOMATIC TIME STEPPING . . . . . ON
  INITIAL NUMBER OF SUBSTEPS . . . . . 10
  MAXIMUM NUMBER OF SUBSTEPS . . . . . 40
  MINIMUM NUMBER OF SUBSTEPS . . . . . 5
  START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . . 25
STEP CHANGE BOUNDARY CONDITIONS . . . . . NO
TRANSIENT (INERTIA) EFFECTS
  THERMAL DOFS . . . . . ON
TRANSIENT INTEGRATION PARAMETERS
  THETA. . . . . .50000
  OSCILLATION LIMIT CRITERION. . . . . .50000
  TOLERANCE. . . . . .20000
TERMINATE ANALYSIS IF NOT CONVERGED . . . . .YES (EXIT)
CONVERGENCE CONTROLS. . . . .USE DEFAULTS
PRINT OUTPUT CONTROLS . . . . .NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . .ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP.

```

```

HT FLOW CONVERGENCE VALUE= 9.217 CRITERION= .3180
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1636E-01 CRITERION= .3178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 300
*** TIME = .284808E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7458E-05 OSCILLATION LIMIT = .5884
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

```

```

HT FLOW CONVERGENCE VALUE= 9.224 CRITERION= .3180
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1597E-01 CRITERION= .3178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 301
*** TIME = .285597E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .9189E-05 OSCILLATION LIMIT = .7250
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

```

```

HT FLOW CONVERGENCE VALUE= 9.217 CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1616E-01 CRITERION= .3178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 302
*** TIME = .286386E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8355E-05 OSCILLATION LIMIT = .6591
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

```

```

HT FLOW CONVERGENCE VALUE= 9.225 CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1608E-01 CRITERION= .3177 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 303
*** TIME = .287174E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8526E-05 OSCILLATION LIMIT = .6726
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

```

```

HT FLOW CONVERGENCE VALUE= 9.218 CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1614E-01 CRITERION= .3177 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 304
*** TIME = .287963E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8490E-05 OSCILLATION LIMIT = .6698
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

```

```

HT FLOW CONVERGENCE VALUE= 9.226 CRITERION= .3178
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01

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HT FLOW CONVERGENCE VALUE= .1608E-01 CRITERION= .3177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 305
 *** TIME = .288752E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8497E-05 OSCILLATION LIMIT = .6704
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.219 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1613E-01 CRITERION= .3176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 306
 *** TIME = .289541E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8492E-05 OSCILLATION LIMIT = .6699
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.226 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1608E-01 CRITERION= .3176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 307
 *** TIME = .290330E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8485E-05 OSCILLATION LIMIT = .6694
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.219 CRITERION= .3177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1613E-01 CRITERION= .3176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 308
 *** TIME = .291119E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8491E-05 OSCILLATION LIMIT = .6699
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.227 CRITERION= .3177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1608E-01 CRITERION= .3175 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 309
 *** TIME = .291908E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8477E-05 OSCILLATION LIMIT = .6687
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.220 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1612E-01 CRITERION= .3175 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 310
 *** TIME = .292697E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8488E-05 OSCILLATION LIMIT = .6697
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.228 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1607E-01 CRITERION= .3174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 311
 *** TIME = .293486E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8470E-05 OSCILLATION LIMIT = .6682
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.221 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1611E-01 CRITERION= .3174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 312
 *** TIME = .294275E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8484E-05 OSCILLATION LIMIT = .6693
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.229 CRITERION= .3175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1607E-01 CRITERION= .3174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 313
 *** TIME = .295064E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8464E-05 OSCILLATION LIMIT = .6678
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.222 CRITERION= .3175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1611E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 314
 *** TIME = .295853E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8480E-05 OSCILLATION LIMIT = .6690
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.229 CRITERION= .3175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1607E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 315
 *** TIME = .296642E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8459E-05 OSCILLATION LIMIT = .6673
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.222 CRITERION= .3174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1610E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 316
 *** TIME = .297431E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8475E-05 OSCILLATION LIMIT = .6687
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.230 CRITERION= .3174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1604E-01 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 317
 *** TIME = .298220E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8454E-05 OSCILLATION LIMIT = .6669
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.223 CRITERION= .3174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1605E-01 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 318
 *** TIME = .299009E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8471E-05 OSCILLATION LIMIT = .6683
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.231 CRITERION= .3173
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 319
 *** TIME = .299798E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8450E-05 OSCILLATION LIMIT = .6666
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.224 CRITERION= .3173
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
 HT FLOW CONVERGENCE VALUE= .1604E-01 CRITERION= .3171 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 320
 *** TIME = .300586E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8467E-05 OSCILLATION LIMIT = .6680

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.232 CRITERION= .3173
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1601E-01 CRITERION= .3171 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 321
*** TIME = .301375E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8445E-05 OSCILLATION LIMIT = .6662
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.225 CRITERION= .3172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1604E-01 CRITERION= .3171 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 322
*** TIME = .302164E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8462E-05 OSCILLATION LIMIT = .6676
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.232 CRITERION= .3172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1600E-01 CRITERION= .3170 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 323
*** TIME = .302953E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8440E-05 OSCILLATION LIMIT = .6658
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.225 CRITERION= .3172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1603E-01 CRITERION= .3170 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 324
*** TIME = .303742E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8457E-05 OSCILLATION LIMIT = .6672
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.233 CRITERION= .3171
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1600E-01 CRITERION= .3169 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 325
*** TIME = .304531E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8435E-05 OSCILLATION LIMIT = .6654
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.226 CRITERION= .3171
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .3169 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 326
*** TIME = .305320E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8452E-05 OSCILLATION LIMIT = .6668
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.234 CRITERION= .3170
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1600E-01 CRITERION= .3169 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 327
*** TIME = .306109E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8430E-05 OSCILLATION LIMIT = .6650
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.227 CRITERION= .3170
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .3168 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 328

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*** TIME = .306898E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8447E-05    OSCILLATION LIMIT = .6664
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.234    CRITERION= .3170
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1599E-01 CRITERION= .3168    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 30 COMPLETED.    CUM ITER = 329
*** TIME = .307687E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8425E-05    OSCILLATION LIMIT = .6646
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.227    CRITERION= .3169
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1601E-01 CRITERION= .3168    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 31 COMPLETED.    CUM ITER = 330
*** TIME = .308476E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8443E-05    OSCILLATION LIMIT = .6661
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.235    CRITERION= .3169
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1599E-01 CRITERION= .3167    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 32 COMPLETED.    CUM ITER = 331
*** TIME = .309265E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8420E-05    OSCILLATION LIMIT = .6643
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.228    CRITERION= .3169
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1600E-01 CRITERION= .3167    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 33 COMPLETED.    CUM ITER = 332
*** TIME = .310054E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8438E-05    OSCILLATION LIMIT = .6657
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.236    CRITERION= .3168
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1598E-01 CRITERION= .3167    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 34 COMPLETED.    CUM ITER = 333
*** TIME = .310843E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8415E-05    OSCILLATION LIMIT = .6639
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.229    CRITERION= .3168
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1600E-01 CRITERION= .3166    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 35 COMPLETED.    CUM ITER = 334
*** TIME = .311632E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8434E-05    OSCILLATION LIMIT = .6654
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.237    CRITERION= .3168
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1597E-01 CRITERION= .3166    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 36 COMPLETED.    CUM ITER = 335
*** TIME = .312421E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8411E-05    OSCILLATION LIMIT = .6636
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.230    CRITERION= .3167
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
    HT FLOW CONVERGENCE VALUE= .1599E-01 CRITERION= .3166    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 37 COMPLETED. CUM ITER = 336
*** TIME = .313209E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8430E-05 OSCILLATION LIMIT = .6651
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.237 CRITERION= .3167
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1597E-01 CRITERION= .3165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 337
*** TIME = .313998E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8406E-05 OSCILLATION LIMIT = .6632
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.230 CRITERION= .3167
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1598E-01 CRITERION= .3165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 338
*** TIME = .314787E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8425E-05 OSCILLATION LIMIT = .6647
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.238 CRITERION= .3166
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2461E-01
HT FLOW CONVERGENCE VALUE= .1596E-01 CRITERION= .3165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 339
*** TIME = .315576E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8402E-05 OSCILLATION LIMIT = .6628

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 06:44:39 JUN 13, 1995 CP= 21287.710
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 59.47 CRITERION= .3220
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .1035 CRITERION= .3163 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 340
*** TIME = .323466E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8279E-05 OSCILLATION LIMIT = 6.532
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.48 CRITERION= .3218
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9701E-01 CRITERION= .3159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 341
*** TIME = .331355E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1473E-04 OSCILLATION LIMIT = 11.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.50 CRITERION= .3215
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9819E-01 CRITERION= .3157 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 342
*** TIME = .339245E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .1291E-04 OSCILLATION LIMIT = 10.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 59.51 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9698E-01 CRITERION= .3154 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 343
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1409E-04 OSCILLATION LIMIT = 11.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.53 CRITERION= .3209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9752E-01 CRITERION= .3151 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 344
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1305E-04 OSCILLATION LIMIT = 10.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.54 CRITERION= .3206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9673E-01 CRITERION= .3148 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 345
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1393E-04 OSCILLATION LIMIT = 10.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.56 CRITERION= .3203
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9731E-01 CRITERION= .3145 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 346
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.58 CRITERION= .3201
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9650E-01 CRITERION= .3142 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 347
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1381E-04 OSCILLATION LIMIT = 10.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.59 CRITERION= .3198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9673E-01 CRITERION= .3139 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 348
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1319E-04 OSCILLATION LIMIT = 10.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.61 CRITERION= .3195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9614E-01 CRITERION= .3136 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 349
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1370E-04 OSCILLATION LIMIT = 10.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.62 CRITERION= .3192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9662E-01 CRITERION= .3133 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 350
 *** TIME = .402360E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1323E-04 OSCILLATION LIMIT = 10.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.64 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9606E-01 CRITERION= .3130 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 351
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1362E-04 OSCILLATION LIMIT = 10.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.65 CRITERION= .3186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9622E-01 CRITERION= .3127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 352
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1325E-04 OSCILLATION LIMIT = 10.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.67 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9573E-01 CRITERION= .3124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 353
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1355E-04 OSCILLATION LIMIT = 10.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.68 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9588E-01 CRITERION= .3121 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 354
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1326E-04 OSCILLATION LIMIT = 10.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.70 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9545E-01 CRITERION= .3118 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 355
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1349E-04 OSCILLATION LIMIT = 10.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.71 CRITERION= .3175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9555E-01 CRITERION= .3115 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 356
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1327E-04 OSCILLATION LIMIT = 10.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.73 CRITERION= .3172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9503E-01 CRITERION= .3112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 357
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1345E-04 OSCILLATION LIMIT = 10.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.74 CRITERION= .3169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9506E-01 CRITERION= .3109 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 358
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1326E-04 OSCILLATION LIMIT = 10.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.76 CRITERION= .3166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9460E-01 CRITERION= .3106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 359
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1340E-04 OSCILLATION LIMIT = 10.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.77 CRITERION= .3163
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9462E-01 CRITERION= .3104 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 360
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1326E-04 OSCILLATION LIMIT = 10.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.79 CRITERION= .3161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9417E-01 CRITERION= .3101 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 361
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1337E-04 OSCILLATION LIMIT = 10.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.80 CRITERION= .3158
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9417E-01 CRITERION= .3098 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 362
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1325E-04 OSCILLATION LIMIT = 10.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.82 CRITERION= .3155
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9381E-01 CRITERION= .3095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 363
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1333E-04 OSCILLATION LIMIT = 10.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.83 CRITERION= .3152
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9379E-01 CRITERION= .3092 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 364
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1323E-04 OSCILLATION LIMIT = 10.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.85 CRITERION= .3149
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9329E-01 CRITERION= .3089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 365
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1330E-04 OSCILLATION LIMIT = 10.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.86 CRITERION= .3146
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587

HT FLOW CONVERGENCE VALUE= .9336E-01 CRITERION= .3086 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 366
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1321E-04 OSCILLATION LIMIT = 10.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.88 CRITERION= .3143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9290E-01 CRITERION= .3083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 367
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1326E-04 OSCILLATION LIMIT = 10.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.89 CRITERION= .3140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9257E-01 CRITERION= .3080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 368
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1319E-04 OSCILLATION LIMIT = 10.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.91 CRITERION= .3138
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9214E-01 CRITERION= .3077 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 369
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1323E-04 OSCILLATION LIMIT = 10.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.92 CRITERION= .3135
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9238E-01 CRITERION= .3074 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 370
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1316E-04 OSCILLATION LIMIT = 10.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.94 CRITERION= .3132
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9210E-01 CRITERION= .3071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 371
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1319E-04 OSCILLATION LIMIT = 10.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.95 CRITERION= .3129
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9209E-01 CRITERION= .3068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 372
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1314E-04 OSCILLATION LIMIT = 10.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.97 CRITERION= .3126
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
 HT FLOW CONVERGENCE VALUE= .9175E-01 CRITERION= .3065 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 373
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1317E-04 OSCILLATION LIMIT = 10.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.98 CRITERION= .3123
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9175E-01 CRITERION= .3062 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 374
*** TIME = .591705E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1312E-04 OSCILLATION LIMIT = 10.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.00 CRITERION= .3120
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9151E-01 CRITERION= .3059 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 375
*** TIME = .599595E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1314E-04 OSCILLATION LIMIT = 10.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.01 CRITERION= .3117
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9155E-01 CRITERION= .3056 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 376
*** TIME = .607484E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1309E-04 OSCILLATION LIMIT = 10.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.03 CRITERION= .3115
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9133E-01 CRITERION= .3053 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 377
*** TIME = .615374E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1311E-04 OSCILLATION LIMIT = 10.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.04 CRITERION= .3112
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9138E-01 CRITERION= .3051 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 378
*** TIME = .623263E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1307E-04 OSCILLATION LIMIT = 10.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 60.06 CRITERION= .3109
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1587
HT FLOW CONVERGENCE VALUE= .9116E-01 CRITERION= .3047 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 379
*** TIME = .631152E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1308E-04 OSCILLATION LIMIT = 10.32

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 07:29:37 JUN 13, 1995 CP= 23898.890
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 32.05 CRITERION= .3064
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4258E-01 CRITERION= .3045 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 380
*** TIME = .639042E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4009E-04 OSCILLATION LIMIT = 31.63

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.05      CRITERION= .3062
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4263E-01 CRITERION= .3042    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 381
*** TIME = .646931E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3835E-04 OSCILLATION LIMIT = 30.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.06      CRITERION= .3059
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4412E-01 CRITERION= .3040    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 382
*** TIME = .654821E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3004E-04 OSCILLATION LIMIT = 23.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.06      CRITERION= .3057
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4268E-01 CRITERION= .3037    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 383
*** TIME = .662710E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3791E-04 OSCILLATION LIMIT = 29.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.07      CRITERION= .3054
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4388E-01 CRITERION= .3035    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 384
*** TIME = .670599E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3091E-04 OSCILLATION LIMIT = 24.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.07      CRITERION= .3052
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4273E-01 CRITERION= .3032    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 385
*** TIME = .678489E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3700E-04 OSCILLATION LIMIT = 29.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.07      CRITERION= .3049
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4369E-01 CRITERION= .3030    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 386
*** TIME = .686378E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3160E-04 OSCILLATION LIMIT = 24.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.08      CRITERION= .3047
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4276E-01 CRITERION= .3027    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 387
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3631E-04 OSCILLATION LIMIT = 28.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.08      CRITERION= .3044
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
  HT FLOW CONVERGENCE VALUE= .4351E-01 CRITERION= .3025    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 388

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*** TIME = .702157E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3212E-04    OSCILLATION LIMIT = 25.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.08    CRITERION= .3042
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4271E-01    CRITERION= .3022    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED.    CUM ITER = 389
*** TIME = .710046E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3578E-04    OSCILLATION LIMIT = 28.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.09    CRITERION= .3039
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4333E-01    CRITERION= .3020    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED.    CUM ITER = 390
*** TIME = .717936E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3251E-04    OSCILLATION LIMIT = 25.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.09    CRITERION= .3037
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4275E-01    CRITERION= .3017    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED.    CUM ITER = 391
*** TIME = .725825E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3536E-04    OSCILLATION LIMIT = 27.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.10    CRITERION= .3034
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4327E-01    CRITERION= .3015    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED.    CUM ITER = 392
*** TIME = .733715E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3280E-04    OSCILLATION LIMIT = 25.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.10    CRITERION= .3032
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4272E-01    CRITERION= .3012    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED.    CUM ITER = 393
*** TIME = .741604E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3504E-04    OSCILLATION LIMIT = 27.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.11    CRITERION= .3029
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4315E-01    CRITERION= .3010    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 15 COMPLETED.    CUM ITER = 394
*** TIME = .749493E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3301E-04    OSCILLATION LIMIT = 26.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.11    CRITERION= .3027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4261E-01    CRITERION= .3007    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 16 COMPLETED.    CUM ITER = 395
*** TIME = .757383E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3479E-04    OSCILLATION LIMIT = 27.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 32.12    CRITERION= .3024
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
    HT FLOW CONVERGENCE VALUE= .4295E-01    CRITERION= .3005    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 396
*** TIME = .765272E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3317E-04 OSCILLATION LIMIT = 26.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.12 CRITERION= .3022
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4256E-01 CRITERION= .3002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 397
*** TIME = .773162E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3459E-04 OSCILLATION LIMIT = 27.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.13 CRITERION= .3019
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4291E-01 CRITERION= .3000 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 398
*** TIME = .781051E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3328E-04 OSCILLATION LIMIT = 26.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.13 CRITERION= .3017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4254E-01 CRITERION= .2997 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 399
*** TIME = .788940E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3442E-04 OSCILLATION LIMIT = 27.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.13 CRITERION= .3014
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4288E-01 CRITERION= .2995 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 400
*** TIME = .796830E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3335E-04 OSCILLATION LIMIT = 26.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.14 CRITERION= .3012
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4254E-01 CRITERION= .2992 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 401
*** TIME = .804719E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3429E-04 OSCILLATION LIMIT = 27.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.14 CRITERION= .3009
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4280E-01 CRITERION= .2990 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 402
*** TIME = .812609E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3341E-04 OSCILLATION LIMIT = 26.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.14 CRITERION= .3007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4249E-01 CRITERION= .2987 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 403
*** TIME = .820498E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3419E-04 OSCILLATION LIMIT = 26.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.15 CRITERION= .3005

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4272E-01 CRITERION= .2985 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 404
*** TIME = .828387E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3344E-04 OSCILLATION LIMIT = 26.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.15 CRITERION= .3002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4243E-01 CRITERION= .2982 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 405
*** TIME = .836277E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3410E-04 OSCILLATION LIMIT = 26.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .3000
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4265E-01 CRITERION= .2980 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 406
*** TIME = .844166E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3346E-04 OSCILLATION LIMIT = 26.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.16 CRITERION= .2997
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4238E-01 CRITERION= .2977 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 407
*** TIME = .852056E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3402E-04 OSCILLATION LIMIT = 26.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .2995
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4258E-01 CRITERION= .2975 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 408
*** TIME = .859945E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3347E-04 OSCILLATION LIMIT = 26.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.17 CRITERION= .2992
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4232E-01 CRITERION= .2972 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 409
*** TIME = .867834E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3396E-04 OSCILLATION LIMIT = 26.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.18 CRITERION= .2990
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4251E-01 CRITERION= .2970 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 410
*** TIME = .875724E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3348E-04 OSCILLATION LIMIT = 26.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.18 CRITERION= .2987
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
HT FLOW CONVERGENCE VALUE= .4225E-01 CRITERION= .2967 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 411
*** TIME = .883613E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3390E-04 OSCILLATION LIMIT = 26.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 32.19 CRITERION= .2985
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4243E-01 CRITERION= .2965 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 412
 *** TIME = .891503E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3347E-04 OSCILLATION LIMIT = 26.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.19 CRITERION= .2982
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4218E-01 CRITERION= .2963 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 413
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3385E-04 OSCILLATION LIMIT = 26.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.19 CRITERION= .2980
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4235E-01 CRITERION= .2960 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 414
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3346E-04 OSCILLATION LIMIT = 26.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.20 CRITERION= .2978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4211E-01 CRITERION= .2958 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 415
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3380E-04 OSCILLATION LIMIT = 26.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.20 CRITERION= .2975
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4228E-01 CRITERION= .2955 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 416
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3344E-04 OSCILLATION LIMIT = 26.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.20 CRITERION= .2973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4205E-01 CRITERION= .2953 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 417
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3376E-04 OSCILLATION LIMIT = 26.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.21 CRITERION= .2970
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4221E-01 CRITERION= .2950 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 418
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3343E-04 OSCILLATION LIMIT = 26.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.21 CRITERION= .2968
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8497E-01
 HT FLOW CONVERGENCE VALUE= .4199E-01 CRITERION= .2948 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 419
 *** TIME = .946728E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .3372E-04 OSCILLATION LIMIT = 26.60

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:14:08 JUN 13, 1995 CP= 26495.010
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 19.86 CRITERION= .2954
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2401E-01 CRITERION= .2946 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 420
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6482E-04 OSCILLATION LIMIT = 51.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.86 CRITERION= .2952
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2393E-01 CRITERION= .2943 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 421
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6410E-04 OSCILLATION LIMIT = 50.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.87 CRITERION= .2950
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2428E-01 CRITERION= .2941 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 422
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5855E-04 OSCILLATION LIMIT = 46.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.87 CRITERION= .2948
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2392E-01 CRITERION= .2939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 423
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6387E-04 OSCILLATION LIMIT = 50.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.87 CRITERION= .2946
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2422E-01 CRITERION= .2937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 424
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5909E-04 OSCILLATION LIMIT = 46.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.87 CRITERION= .2944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2389E-01 CRITERION= .2935 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 425
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6337E-04 OSCILLATION LIMIT = 50.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.87 CRITERION= .2941
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2417E-01 CRITERION= .2933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 426
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5951E-04 OSCILLATION LIMIT = 46.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.87 CRITERION= .2939
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2387E-01 CRITERION= .2930 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 427
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6298E-04 OSCILLATION LIMIT = 49.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .2937
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2412E-01 CRITERION= .2929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 428
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .5983E-04 OSCILLATION LIMIT = 47.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .2935
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2384E-01 CRITERION= .2926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 429
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6268E-04 OSCILLATION LIMIT = 49.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .2933
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2407E-01 CRITERION= .2924 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 430
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6006E-04 OSCILLATION LIMIT = 47.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .2931
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2381E-01 CRITERION= .2922 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 431
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6244E-04 OSCILLATION LIMIT = 49.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .2929
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2403E-01 CRITERION= .2920 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 432
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6024E-04 OSCILLATION LIMIT = 47.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.88 CRITERION= .2927
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2376E-01 CRITERION= .2918 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 433
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6224E-04 OSCILLATION LIMIT = 49.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.89 CRITERION= .2924
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01

HT FLOW CONVERGENCE VALUE= .2396E-01 CRITERION= .2916 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 434
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6037E-04 OSCILLATION LIMIT = 47.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.89 CRITERION= .2923
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2373E-01 CRITERION= .2914 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 435
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6209E-04 OSCILLATION LIMIT = 48.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.89 CRITERION= .2920
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2392E-01 CRITERION= .2912 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 436
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6047E-04 OSCILLATION LIMIT = 47.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.89 CRITERION= .2918
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2373E-01 CRITERION= .2909 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 437
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6197E-04 OSCILLATION LIMIT = 48.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.89 CRITERION= .2916
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2392E-01 CRITERION= .2907 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 438
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6053E-04 OSCILLATION LIMIT = 47.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.89 CRITERION= .2914
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2370E-01 CRITERION= .2905 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 439
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6186E-04 OSCILLATION LIMIT = 48.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.90 CRITERION= .2912
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2388E-01 CRITERION= .2903 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 440
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6058E-04 OSCILLATION LIMIT = 47.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.90 CRITERION= .2910
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2367E-01 CRITERION= .2901 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 441
 *** TIME = .112030E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6178E-04 OSCILLATION LIMIT = 48.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.90 CRITERION= .2908
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2384E-01 CRITERION= .2899 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 442
 *** TIME = .112818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6062E-04 OSCILLATION LIMIT = 47.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.90 CRITERION= .2906
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2368E-01 CRITERION= .2897 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 443
 *** TIME = .113607E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6171E-04 OSCILLATION LIMIT = 48.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.90 CRITERION= .2903
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2415E-01 CRITERION= .2895 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 444
 *** TIME = .114396E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6064E-04 OSCILLATION LIMIT = 47.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.90 CRITERION= .2901
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2394E-01 CRITERION= .2892 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 445
 *** TIME = .115185E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6165E-04 OSCILLATION LIMIT = 48.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.91 CRITERION= .2899
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2411E-01 CRITERION= .2890 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 446
 *** TIME = .115974E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6065E-04 OSCILLATION LIMIT = 47.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.91 CRITERION= .2897
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2412E-01 CRITERION= .2888 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 447
 *** TIME = .116763E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6160E-04 OSCILLATION LIMIT = 48.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.91 CRITERION= .2895
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2442E-01 CRITERION= .2886 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 448
 *** TIME = .117552E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6066E-04 OSCILLATION LIMIT = 47.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.91 CRITERION= .2893
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
 HT FLOW CONVERGENCE VALUE= .2422E-01 CRITERION= .2884 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 449
 *** TIME = .118341E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6155E-04 OSCILLATION LIMIT = 48.56

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.91 CRITERION= .2891
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2438E-01 CRITERION= .2882 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 450

*** TIME = .119130E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6066E-04 OSCILLATION LIMIT = 47.86

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.91 CRITERION= .2889
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2416E-01 CRITERION= .2880 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 451

*** TIME = .119919E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6151E-04 OSCILLATION LIMIT = 48.53

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.92 CRITERION= .2886
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2432E-01 CRITERION= .2878 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 452

*** TIME = .120708E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6065E-04 OSCILLATION LIMIT = 47.85

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.92 CRITERION= .2884
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2412E-01 CRITERION= .2875 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 453

*** TIME = .121497E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6147E-04 OSCILLATION LIMIT = 48.49

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.92 CRITERION= .2882
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2429E-01 CRITERION= .2873 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 454

*** TIME = .122286E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6065E-04 OSCILLATION LIMIT = 47.85

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.92 CRITERION= .2880
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2413E-01 CRITERION= .2871 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 455

*** TIME = .123075E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6143E-04 OSCILLATION LIMIT = 48.47

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.92 CRITERION= .2878
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2429E-01 CRITERION= .2869 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 456

*** TIME = .123864E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .6064E-04 OSCILLATION LIMIT = 47.84

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.92 CRITERION= .2876
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
HT FLOW CONVERGENCE VALUE= .2409E-01 CRITERION= .2867 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 457

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*** TIME = .124653E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6140E-04    OSCILLATION LIMIT = 48.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.93    CRITERION= .2874
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
    HT FLOW CONVERGENCE VALUE= .2425E-01    CRITERION= .2865    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 39 COMPLETED.    CUM ITER = 458
*** TIME = .125441E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6063E-04    OSCILLATION LIMIT = 47.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 19.93    CRITERION= .2872
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5261E-01
    HT FLOW CONVERGENCE VALUE= .2406E-01    CRITERION= .2863    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 40 COMPLETED.    CUM ITER = 459
*** TIME = .126230E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6137E-04    OSCILLATION LIMIT = 48.42

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX 08:58:21 JUN 13, 1995 CP= 29083.680
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 13.35    CRITERION= .2866
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
    HT FLOW CONVERGENCE VALUE= .1601E-01    CRITERION= .2861    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 1 COMPLETED.    CUM ITER = 460
*** TIME = .127019E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7906E-04    OSCILLATION LIMIT = 62.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.34    CRITERION= .2864
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
    HT FLOW CONVERGENCE VALUE= .1588E-01    CRITERION= .2859    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 2 COMPLETED.    CUM ITER = 461
*** TIME = .127808E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7910E-04    OSCILLATION LIMIT = 62.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.35    CRITERION= .2862
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
    HT FLOW CONVERGENCE VALUE= .1602E-01    CRITERION= .2858    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 3 COMPLETED.    CUM ITER = 462
*** TIME = .128597E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7642E-04    OSCILLATION LIMIT = 60.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.35    CRITERION= .2861
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
    HT FLOW CONVERGENCE VALUE= .1586E-01    CRITERION= .2856    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 4 COMPLETED.    CUM ITER = 463
*** TIME = .129386E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7908E-04    OSCILLATION LIMIT = 62.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.35    CRITERION= .2859
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
    HT FLOW CONVERGENCE VALUE= .1600E-01    CRITERION= .2854    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 464
*** TIME = .130175E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7658E-04 OSCILLATION LIMIT = 60.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2857
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1584E-01 CRITERION= .2852 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 465
*** TIME = .130964E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7892E-04 OSCILLATION LIMIT = 62.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2855
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1598E-01 CRITERION= .2851 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 466
*** TIME = .131753E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7671E-04 OSCILLATION LIMIT = 60.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2854
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1582E-01 CRITERION= .2849 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 467
*** TIME = .132542E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7880E-04 OSCILLATION LIMIT = 62.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2852
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1596E-01 CRITERION= .2847 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 468
*** TIME = .133331E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7680E-04 OSCILLATION LIMIT = 60.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2850
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .2845 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 469
*** TIME = .134120E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7871E-04 OSCILLATION LIMIT = 62.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2848
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1594E-01 CRITERION= .2844 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 470
*** TIME = .134909E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7688E-04 OSCILLATION LIMIT = 60.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2847
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1578E-01 CRITERION= .2842 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 471
*** TIME = .135698E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7863E-04 OSCILLATION LIMIT = 62.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2845

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1592E-01 CRITERION= .2840 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 472
*** TIME = .136487E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7693E-04 OSCILLATION LIMIT = 60.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2843
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1575E-01 CRITERION= .2838 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 473
*** TIME = .137276E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7856E-04 OSCILLATION LIMIT = 61.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2842
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1590E-01 CRITERION= .2837 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 474
*** TIME = .138065E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7697E-04 OSCILLATION LIMIT = 60.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.35 CRITERION= .2840
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1573E-01 CRITERION= .2835 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 475
*** TIME = .138853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7851E-04 OSCILLATION LIMIT = 61.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2838
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1588E-01 CRITERION= .2833 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 476
*** TIME = .139642E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7700E-04 OSCILLATION LIMIT = 60.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2836
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1571E-01 CRITERION= .2832 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 477
*** TIME = .140431E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7847E-04 OSCILLATION LIMIT = 61.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2835
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1586E-01 CRITERION= .2830 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 478
*** TIME = .141220E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7703E-04 OSCILLATION LIMIT = 60.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2833
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1569E-01 CRITERION= .2828 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 479
*** TIME = .142009E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7843E-04 OSCILLATION LIMIT = 61.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2831
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1584E-01 CRITERION= .2827 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 480
 *** TIME = .142798E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7704E-04 OSCILLATION LIMIT = 60.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2830
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1568E-01 CRITERION= .2825 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 481
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7840E-04 OSCILLATION LIMIT = 61.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2828
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1582E-01 CRITERION= .2823 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 482
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7705E-04 OSCILLATION LIMIT = 60.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2826
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1566E-01 CRITERION= .2821 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 483
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7837E-04 OSCILLATION LIMIT = 61.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2824
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .2820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 484
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7706E-04 OSCILLATION LIMIT = 60.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2823
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1564E-01 CRITERION= .2818 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 485
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7834E-04 OSCILLATION LIMIT = 61.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2821
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1578E-01 CRITERION= .2816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 486
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7707E-04 OSCILLATION LIMIT = 60.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.36 CRITERION= .2819
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
 HT FLOW CONVERGENCE VALUE= .1562E-01 CRITERION= .2814 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 487
 *** TIME = .148321E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .7832E-04  OSCILLATION LIMIT = 61.79
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.37  CRITERION= .2817
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1576E-01 CRITERION= .2813  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 29 COMPLETED.  CUM ITER = 488
*** TIME = .149110E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7707E-04  OSCILLATION LIMIT = 60.81
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.36  CRITERION= .2816
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1560E-01 CRITERION= .2811  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 30 COMPLETED.  CUM ITER = 489
*** TIME = .149899E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7830E-04  OSCILLATION LIMIT = 61.77
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.37  CRITERION= .2814
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1574E-01 CRITERION= .2809  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 31 COMPLETED.  CUM ITER = 490
*** TIME = .150688E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7708E-04  OSCILLATION LIMIT = 60.81
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.37  CRITERION= .2812
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1558E-01 CRITERION= .2807  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 32 COMPLETED.  CUM ITER = 491
*** TIME = .151477E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7828E-04  OSCILLATION LIMIT = 61.76
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.37  CRITERION= .2810
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1572E-01 CRITERION= .2806  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 33 COMPLETED.  CUM ITER = 492
*** TIME = .152265E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7708E-04  OSCILLATION LIMIT = 60.81
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.37  CRITERION= .2809
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1556E-01 CRITERION= .2804  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 34 COMPLETED.  CUM ITER = 493
*** TIME = .153054E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7827E-04  OSCILLATION LIMIT = 61.75
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.37  CRITERION= .2807
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1570E-01 CRITERION= .2802  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 35 COMPLETED.  CUM ITER = 494
*** TIME = .153843E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7708E-04  OSCILLATION LIMIT = 60.81
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.37  CRITERION= .2805
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
  HT FLOW CONVERGENCE VALUE= .1554E-01 CRITERION= .2800  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 495
*** TIME = .154632E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7825E-04 OSCILLATION LIMIT = 61.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2804
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1568E-01 CRITERION= .2799 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 496
*** TIME = .155421E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7707E-04 OSCILLATION LIMIT = 60.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2802
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1552E-01 CRITERION= .2797 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 497
*** TIME = .156210E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7823E-04 OSCILLATION LIMIT = 61.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.38 CRITERION= .2800
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1566E-01 CRITERION= .2795 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 498
*** TIME = .156999E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7707E-04 OSCILLATION LIMIT = 60.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.37 CRITERION= .2799
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3537E-01
HT FLOW CONVERGENCE VALUE= .1550E-01 CRITERION= .2794 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 499
*** TIME = .157788E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7822E-04 OSCILLATION LIMIT = 61.71

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 09:44:03 JUN 13, 1995 CP= 31682.400
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 9.005 CRITERION= .2795
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4729E-01
HT FLOW CONVERGENCE VALUE= .1445E-01 CRITERION= .2792 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 500
*** TIME = .158577E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7960E-04 OSCILLATION LIMIT = 62.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.001 CRITERION= .2793
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4762E-01
HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .2789 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 501
*** TIME = .159366E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7916E-04 OSCILLATION LIMIT = 62.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.006 CRITERION= .2791
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4484E-01

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HT FLOW CONVERGENCE VALUE= .1407E-01 CRITERION= .2788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 502
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8023E-04 OSCILLATION LIMIT = 63.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.002 CRITERION= .2789
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4742E-01
 HT FLOW CONVERGENCE VALUE= .1458E-01 CRITERION= .2785 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 503
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7936E-04 OSCILLATION LIMIT = 62.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.007 CRITERION= .2787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4520E-01
 HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .2784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 504
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8003E-04 OSCILLATION LIMIT = 63.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.002 CRITERION= .2785
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4711E-01
 HT FLOW CONVERGENCE VALUE= .1449E-01 CRITERION= .2781 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 505
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7955E-04 OSCILLATION LIMIT = 62.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.007 CRITERION= .2783
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4548E-01
 HT FLOW CONVERGENCE VALUE= .1416E-01 CRITERION= .2779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 506
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7987E-04 OSCILLATION LIMIT = 63.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.003 CRITERION= .2781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4687E-01
 HT FLOW CONVERGENCE VALUE= .1442E-01 CRITERION= .2777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 507
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7969E-04 OSCILLATION LIMIT = 62.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.008 CRITERION= .2779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4570E-01
 HT FLOW CONVERGENCE VALUE= .1418E-01 CRITERION= .2775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 508
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7975E-04 OSCILLATION LIMIT = 62.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.004 CRITERION= .2777
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4670E-01
 HT FLOW CONVERGENCE VALUE= .1436E-01 CRITERION= .2773 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 509
 *** TIME = .165677E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7980E-04 OSCILLATION LIMIT = 62.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.009 CRITERION= .2775
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4586E-01
 HT FLOW CONVERGENCE VALUE= .1419E-01 CRITERION= .2771 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 510
 *** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7966E-04 OSCILLATION LIMIT = 62.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.004 CRITERION= .2773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4657E-01
 HT FLOW CONVERGENCE VALUE= .1432E-01 CRITERION= .2769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 511
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7988E-04 OSCILLATION LIMIT = 63.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.009 CRITERION= .2771
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4599E-01
 HT FLOW CONVERGENCE VALUE= .1419E-01 CRITERION= .2767 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 512
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7959E-04 OSCILLATION LIMIT = 62.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.005 CRITERION= .2769
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4647E-01
 HT FLOW CONVERGENCE VALUE= .1427E-01 CRITERION= .2765 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 513
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7994E-04 OSCILLATION LIMIT = 63.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.010 CRITERION= .2766
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4608E-01
 HT FLOW CONVERGENCE VALUE= .1419E-01 CRITERION= .2763 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 514
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7954E-04 OSCILLATION LIMIT = 62.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.006 CRITERION= .2765
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4640E-01
 HT FLOW CONVERGENCE VALUE= .1424E-01 CRITERION= .2761 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 515
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7998E-04 OSCILLATION LIMIT = 63.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.011 CRITERION= .2762
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4615E-01
 HT FLOW CONVERGENCE VALUE= .1419E-01 CRITERION= .2759 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 516
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7950E-04 OSCILLATION LIMIT = 62.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.006 CRITERION= .2761
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4635E-01
 HT FLOW CONVERGENCE VALUE= .1420E-01 CRITERION= .2757 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 517
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8001E-04 OSCILLATION LIMIT = 63.13

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.011 CRITERION= .2758
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4621E-01
HT FLOW CONVERGENCE VALUE= .1418E-01 CRITERION= .2755 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 518
*** TIME = .172778E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7947E-04 OSCILLATION LIMIT = 62.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.007 CRITERION= .2757
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4632E-01
HT FLOW CONVERGENCE VALUE= .1417E-01 CRITERION= .2753 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 519
*** TIME = .173567E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8004E-04 OSCILLATION LIMIT = 63.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.012 CRITERION= .2754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4625E-01
HT FLOW CONVERGENCE VALUE= .1416E-01 CRITERION= .2751 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 520
*** TIME = .174356E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7945E-04 OSCILLATION LIMIT = 62.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.008 CRITERION= .2752
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4629E-01
HT FLOW CONVERGENCE VALUE= .1414E-01 CRITERION= .2749 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 521
*** TIME = .175145E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8006E-04 OSCILLATION LIMIT = 63.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.013 CRITERION= .2750
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4628E-01
HT FLOW CONVERGENCE VALUE= .1415E-01 CRITERION= .2747 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 522
*** TIME = .175934E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7944E-04 OSCILLATION LIMIT = 62.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.008 CRITERION= .2748
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4628E-01
HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .2745 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 523
*** TIME = .176723E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8007E-04 OSCILLATION LIMIT = 63.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.013 CRITERION= .2746
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4631E-01
HT FLOW CONVERGENCE VALUE= .1413E-01 CRITERION= .2743 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 524
*** TIME = .177512E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7942E-04 OSCILLATION LIMIT = 62.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.009 CRITERION= .2744
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4627E-01
HT FLOW CONVERGENCE VALUE= .1409E-01 CRITERION= .2741 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 525

*** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8008E-04 OSCILLATION LIMIT = 63.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.014 CRITERION= .2742
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4632E-01
 HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .2739 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 526
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7942E-04 OSCILLATION LIMIT = 62.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.010 CRITERION= .2740
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4626E-01
 HT FLOW CONVERGENCE VALUE= .1407E-01 CRITERION= .2737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 527
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8008E-04 OSCILLATION LIMIT = 63.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.015 CRITERION= .2738
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4634E-01
 HT FLOW CONVERGENCE VALUE= .1410E-01 CRITERION= .2735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 528
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7941E-04 OSCILLATION LIMIT = 62.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.010 CRITERION= .2736
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4626E-01
 HT FLOW CONVERGENCE VALUE= .1404E-01 CRITERION= .2733 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 529
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8009E-04 OSCILLATION LIMIT = 63.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.015 CRITERION= .2734
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4635E-01
 HT FLOW CONVERGENCE VALUE= .1408E-01 CRITERION= .2731 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 530
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7941E-04 OSCILLATION LIMIT = 62.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.011 CRITERION= .2732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4626E-01
 HT FLOW CONVERGENCE VALUE= .1402E-01 CRITERION= .2729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 531
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8009E-04 OSCILLATION LIMIT = 63.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.016 CRITERION= .2730
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4636E-01
 HT FLOW CONVERGENCE VALUE= .1406E-01 CRITERION= .2727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 532
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7940E-04 OSCILLATION LIMIT = 62.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.012 CRITERION= .2728
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4627E-01
 HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .2725 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 533
*** TIME = .184612E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8009E-04 OSCILLATION LIMIT = 63.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.016 CRITERION= .2726
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4637E-01
HT FLOW CONVERGENCE VALUE= .1404E-01 CRITERION= .2723 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 534
*** TIME = .185401E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7940E-04 OSCILLATION LIMIT = 62.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.012 CRITERION= .2724
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4627E-01
HT FLOW CONVERGENCE VALUE= .1397E-01 CRITERION= .2720 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 535
*** TIME = .186190E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8009E-04 OSCILLATION LIMIT = 63.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.017 CRITERION= .2722
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4637E-01
HT FLOW CONVERGENCE VALUE= .1402E-01 CRITERION= .2719 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 536
*** TIME = .186979E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7940E-04 OSCILLATION LIMIT = 62.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.013 CRITERION= .2720
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4628E-01
HT FLOW CONVERGENCE VALUE= .1395E-01 CRITERION= .2716 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 537
*** TIME = .187768E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8009E-04 OSCILLATION LIMIT = 63.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.018 CRITERION= .2718
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4638E-01
HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .2715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 538
*** TIME = .188557E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7940E-04 OSCILLATION LIMIT = 62.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.014 CRITERION= .2716
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4628E-01
HT FLOW CONVERGENCE VALUE= .1393E-01 CRITERION= .2712 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 539
*** TIME = .189346E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8009E-04 OSCILLATION LIMIT = 63.19

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:30:27 JUN 13, 1995 CP= 34277.150
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 6.193 CRITERION= .2713

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3795E-01
 HT FLOW CONVERGENCE VALUE= .1118E-01 CRITERION= .2711 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 540
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7380E-04 OSCILLATION LIMIT = 58.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.189 CRITERION= .2712
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3726E-01
 HT FLOW CONVERGENCE VALUE= .1086E-01 CRITERION= .2709 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 541
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7552E-04 OSCILLATION LIMIT = 59.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.194 CRITERION= .2710
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3809E-01
 HT FLOW CONVERGENCE VALUE= .1103E-01 CRITERION= .2708 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 542
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7423E-04 OSCILLATION LIMIT = 58.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.189 CRITERION= .2708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3737E-01
 HT FLOW CONVERGENCE VALUE= .1087E-01 CRITERION= .2706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 543
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7544E-04 OSCILLATION LIMIT = 59.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.194 CRITERION= .2707
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3802E-01
 HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .2705 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 544
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7428E-04 OSCILLATION LIMIT = 58.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.189 CRITERION= .2705
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3744E-01
 HT FLOW CONVERGENCE VALUE= .1087E-01 CRITERION= .2703 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 545
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7538E-04 OSCILLATION LIMIT = 59.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.194 CRITERION= .2704
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3797E-01
 HT FLOW CONVERGENCE VALUE= .1098E-01 CRITERION= .2701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 546
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7432E-04 OSCILLATION LIMIT = 58.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.190 CRITERION= .2702
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3750E-01
 HT FLOW CONVERGENCE VALUE= .1087E-01 CRITERION= .2700 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 547
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7534E-04 OSCILLATION LIMIT = 59.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.195 CRITERION= .2700
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3793E-01
HT FLOW CONVERGENCE VALUE= .1096E-01 CRITERION= .2698 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 548
*** TIME = .196446E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7435E-04 OSCILLATION LIMIT = 58.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.190 CRITERION= .2699
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3754E-01
HT FLOW CONVERGENCE VALUE= .1085E-01 CRITERION= .2697 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 549
*** TIME = .197235E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7531E-04 OSCILLATION LIMIT = 59.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.195 CRITERION= .2697
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3789E-01
HT FLOW CONVERGENCE VALUE= .1093E-01 CRITERION= .2695 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 550
*** TIME = .198024E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7438E-04 OSCILLATION LIMIT = 58.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.190 CRITERION= .2696
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3758E-01
HT FLOW CONVERGENCE VALUE= .1084E-01 CRITERION= .2693 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 551
*** TIME = .198813E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7529E-04 OSCILLATION LIMIT = 59.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.195 CRITERION= .2694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3787E-01
HT FLOW CONVERGENCE VALUE= .1091E-01 CRITERION= .2692 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 552
*** TIME = .199602E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7439E-04 OSCILLATION LIMIT = 58.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.191 CRITERION= .2693
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3761E-01
HT FLOW CONVERGENCE VALUE= .1083E-01 CRITERION= .2690 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 553
*** TIME = .200391E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7527E-04 OSCILLATION LIMIT = 59.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.195 CRITERION= .2691
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3785E-01
HT FLOW CONVERGENCE VALUE= .1090E-01 CRITERION= .2689 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 554
*** TIME = .201180E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7441E-04 OSCILLATION LIMIT = 58.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.191 CRITERION= .2690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3763E-01
HT FLOW CONVERGENCE VALUE= .1082E-01 CRITERION= .2687 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 555
*** TIME = .201969E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7525E-04 OSCILLATION LIMIT = 59.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.196 CRITERION= .2688
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3784E-01
HT FLOW CONVERGENCE VALUE= .1088E-01 CRITERION= .2686 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 556
*** TIME = .202758E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7442E-04 OSCILLATION LIMIT = 58.71
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.191 CRITERION= .2686
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3765E-01
HT FLOW CONVERGENCE VALUE= .1081E-01 CRITERION= .2684 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 557
*** TIME = .203547E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7524E-04 OSCILLATION LIMIT = 59.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.196 CRITERION= .2685
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3783E-01
HT FLOW CONVERGENCE VALUE= .1086E-01 CRITERION= .2683 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 558
*** TIME = .204335E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7443E-04 OSCILLATION LIMIT = 58.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.192 CRITERION= .2683
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3767E-01
HT FLOW CONVERGENCE VALUE= .1080E-01 CRITERION= .2681 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 559
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7523E-04 OSCILLATION LIMIT = 59.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.196 CRITERION= .2682
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
HT FLOW CONVERGENCE VALUE= .1085E-01 CRITERION= .2679 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 560
*** TIME = .205913E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7443E-04 OSCILLATION LIMIT = 58.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.192 CRITERION= .2680
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3768E-01
HT FLOW CONVERGENCE VALUE= .1079E-01 CRITERION= .2678 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 561
*** TIME = .206702E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7522E-04 OSCILLATION LIMIT = 59.35
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.197 CRITERION= .2678
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
HT FLOW CONVERGENCE VALUE= .1084E-01 CRITERION= .2676 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 562
*** TIME = .207491E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7444E-04 OSCILLATION LIMIT = 58.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.192 CRITERION= .2677
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3770E-01
HT FLOW CONVERGENCE VALUE= .1078E-01 CRITERION= .2675 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 563
*** TIME = .208280E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7521E-04 OSCILLATION LIMIT = 59.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.197 CRITERION= .2675
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
HT FLOW CONVERGENCE VALUE= .1082E-01 CRITERION= .2673 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 564
*** TIME = .209069E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7444E-04 OSCILLATION LIMIT = 58.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.192 CRITERION= .2674
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3771E-01
HT FLOW CONVERGENCE VALUE= .1076E-01 CRITERION= .2671 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 565
*** TIME = .209858E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7521E-04 OSCILLATION LIMIT = 59.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.197 CRITERION= .2672
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
HT FLOW CONVERGENCE VALUE= .1081E-01 CRITERION= .2670 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 566
*** TIME = .210647E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7444E-04 OSCILLATION LIMIT = 58.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.193 CRITERION= .2671
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3772E-01
HT FLOW CONVERGENCE VALUE= .1075E-01 CRITERION= .2668 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 567
*** TIME = .211436E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7520E-04 OSCILLATION LIMIT = 59.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.198 CRITERION= .2669
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3781E-01
HT FLOW CONVERGENCE VALUE= .1079E-01 CRITERION= .2667 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 568
*** TIME = .212225E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7444E-04 OSCILLATION LIMIT = 58.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.193 CRITERION= .2668
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3773E-01
HT FLOW CONVERGENCE VALUE= .1073E-01 CRITERION= .2665 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 569
*** TIME = .213014E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7520E-04 OSCILLATION LIMIT = 59.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.198 CRITERION= .2666
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3781E-01
HT FLOW CONVERGENCE VALUE= .1078E-01 CRITERION= .2664 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 570
*** TIME = .213803E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7444E-04 OSCILLATION LIMIT = 58.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.193 CRITERION= .2664
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3773E-01
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HT FLOW CONVERGENCE VALUE= .1072E-01 CRITERION= .2662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 571
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7519E-04 OSCILLATION LIMIT = 59.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.198 CRITERION= .2663
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
 HT FLOW CONVERGENCE VALUE= .1076E-01 CRITERION= .2661 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 572
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7445E-04 OSCILLATION LIMIT = 58.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.194 CRITERION= .2661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3774E-01
 HT FLOW CONVERGENCE VALUE= .1071E-01 CRITERION= .2659 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 573
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7519E-04 OSCILLATION LIMIT = 59.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.198 CRITERION= .2660
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
 HT FLOW CONVERGENCE VALUE= .1077E-01 CRITERION= .2657 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 574
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7445E-04 OSCILLATION LIMIT = 58.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.194 CRITERION= .2658
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3775E-01
 HT FLOW CONVERGENCE VALUE= .1072E-01 CRITERION= .2656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 575
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7519E-04 OSCILLATION LIMIT = 59.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.199 CRITERION= .2656
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
 HT FLOW CONVERGENCE VALUE= .1076E-01 CRITERION= .2654 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 576
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7445E-04 OSCILLATION LIMIT = 58.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.194 CRITERION= .2655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3776E-01
 HT FLOW CONVERGENCE VALUE= .1070E-01 CRITERION= .2653 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 577
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7518E-04 OSCILLATION LIMIT = 59.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 6.199 CRITERION= .2653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782E-01
 HT FLOW CONVERGENCE VALUE= .1075E-01 CRITERION= .2651 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 578
 *** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7445E-04 OSCILLATION LIMIT = 58.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 6.195      CRITERION= .2652
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3776E-01
HT FLOW CONVERGENCE VALUE= .1069E-01 CRITERION= .2649 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 579
*** TIME = .220903E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7518E-04 OSCILLATION LIMIT = 59.31

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***** ANSYS SOLVE COMMAND *****
1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 11:17:00 JUN 13, 1995 CP= 36892.750
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 5.385      CRITERION= .2650
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3698E-01
HT FLOW CONVERGENCE VALUE= .1036E-01 CRITERION= .2648 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 580
*** TIME = .221692E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7080E-04 OSCILLATION LIMIT = 55.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.380      CRITERION= .2649
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3682E-01
HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2646 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 581
*** TIME = .222481E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7163E-04 OSCILLATION LIMIT = 56.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.385      CRITERION= .2647
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3690E-01
HT FLOW CONVERGENCE VALUE= .1030E-01 CRITERION= .2645 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 582
*** TIME = .223270E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7094E-04 OSCILLATION LIMIT = 55.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.380      CRITERION= .2646
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3684E-01
HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .2643 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 583
*** TIME = .224059E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7162E-04 OSCILLATION LIMIT = 56.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.385      CRITERION= .2644
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3690E-01
HT FLOW CONVERGENCE VALUE= .1029E-01 CRITERION= .2642 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 584
*** TIME = .224848E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7094E-04 OSCILLATION LIMIT = 55.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 5.381      CRITERION= .2643
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3685E-01
HT FLOW CONVERGENCE VALUE= .1025E-01 CRITERION= .2640 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 585
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7162E-04 OSCILLATION LIMIT = 56.51

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .2641
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3690E-01
HT FLOW CONVERGENCE VALUE= .1028E-01 CRITERION= .2639 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 586

*** TIME = .226426E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7094E-04 OSCILLATION LIMIT = 55.97

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.381 CRITERION= .2640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3685E-01
HT FLOW CONVERGENCE VALUE= .1024E-01 CRITERION= .2638 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 587

*** TIME = .227215E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7162E-04 OSCILLATION LIMIT = 56.50

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .2638
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3691E-01
HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2636 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 588

*** TIME = .228004E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7094E-04 OSCILLATION LIMIT = 55.97

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.381 CRITERION= .2637
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3686E-01
HT FLOW CONVERGENCE VALUE= .1022E-01 CRITERION= .2635 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 589

*** TIME = .228793E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7162E-04 OSCILLATION LIMIT = 56.50

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .2635
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3691E-01
HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .2633 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 590

*** TIME = .229582E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7094E-04 OSCILLATION LIMIT = 55.96

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.381 CRITERION= .2634
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3686E-01
HT FLOW CONVERGENCE VALUE= .1021E-01 CRITERION= .2632 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 591

*** TIME = .230371E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7162E-04 OSCILLATION LIMIT = 56.50

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.386 CRITERION= .2632
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3691E-01
HT FLOW CONVERGENCE VALUE= .1025E-01 CRITERION= .2630 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 592

*** TIME = .231159E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7093E-04 OSCILLATION LIMIT = 55.96

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.381 CRITERION= .2631
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3687E-01
HT FLOW CONVERGENCE VALUE= .1020E-01 CRITERION= .2629 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 593


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*** TIME = .231948E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7161E-04    OSCILLATION LIMIT = 56.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.386    CRITERION= .2629
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3692E-01
    HT FLOW CONVERGENCE VALUE= .1024E-01 CRITERION= .2627    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 594
*** TIME = .232737E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04    OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.382    CRITERION= .2628
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3687E-01
    HT FLOW CONVERGENCE VALUE= .1019E-01 CRITERION= .2626    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 595
*** TIME = .233526E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7161E-04    OSCILLATION LIMIT = 56.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.386    CRITERION= .2626
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3692E-01
    HT FLOW CONVERGENCE VALUE= .1023E-01 CRITERION= .2624    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 596
*** TIME = .234315E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04    OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.382    CRITERION= .2625
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3688E-01
    HT FLOW CONVERGENCE VALUE= .1018E-01 CRITERION= .2623    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 597
*** TIME = .235104E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7161E-04    OSCILLATION LIMIT = 56.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.387    CRITERION= .2623
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3692E-01
    HT FLOW CONVERGENCE VALUE= .1021E-01 CRITERION= .2621    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 598
*** TIME = .235893E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04    OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.382    CRITERION= .2622
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3688E-01
    HT FLOW CONVERGENCE VALUE= .1016E-01 CRITERION= .2620    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 599
*** TIME = .236682E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7161E-04    OSCILLATION LIMIT = 56.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.387    CRITERION= .2620
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3693E-01
    HT FLOW CONVERGENCE VALUE= .1018E-01 CRITERION= .2618    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 600
*** TIME = .237471E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04    OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 5.382    CRITERION= .2619
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3689E-01
    HT FLOW CONVERGENCE VALUE= .1013E-01 CRITERION= .2617    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 601
*** TIME = .238260E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7160E-04 OSCILLATION LIMIT = 56.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.387 CRITERION= .2617
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3693E-01
HT FLOW CONVERGENCE VALUE= .1017E-01 CRITERION= .2615 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 602
*** TIME = .239049E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04 OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.383 CRITERION= .2616
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3689E-01
HT FLOW CONVERGENCE VALUE= .1012E-01 CRITERION= .2614 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 603
*** TIME = .239838E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7160E-04 OSCILLATION LIMIT = 56.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.387 CRITERION= .2614
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3693E-01
HT FLOW CONVERGENCE VALUE= .1016E-01 CRITERION= .2612 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 604
*** TIME = .240627E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04 OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.383 CRITERION= .2613
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3690E-01
HT FLOW CONVERGENCE VALUE= .1011E-01 CRITERION= .2611 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 605
*** TIME = .241416E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7160E-04 OSCILLATION LIMIT = 56.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.388 CRITERION= .2611
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694E-01
HT FLOW CONVERGENCE VALUE= .1015E-01 CRITERION= .2609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 606
*** TIME = .242205E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04 OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.383 CRITERION= .2610
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3690E-01
HT FLOW CONVERGENCE VALUE= .1010E-01 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 607
*** TIME = .242994E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7160E-04 OSCILLATION LIMIT = 56.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.388 CRITERION= .2608
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694E-01
HT FLOW CONVERGENCE VALUE= .1014E-01 CRITERION= .2606 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 608
*** TIME = .243782E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7093E-04 OSCILLATION LIMIT = 55.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.383 CRITERION= .2607

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3691E-01
 HT FLOW CONVERGENCE VALUE= .1009E-01 CRITERION= .2605 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 609
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7160E-04 OSCILLATION LIMIT = 56.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.388 CRITERION= .2605
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694E-01
 HT FLOW CONVERGENCE VALUE= .1013E-01 CRITERION= .2603 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 610
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7092E-04 OSCILLATION LIMIT = 55.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.384 CRITERION= .2604
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3692E-01
 HT FLOW CONVERGENCE VALUE= .1008E-01 CRITERION= .2602 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 611
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7159E-04 OSCILLATION LIMIT = 56.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.388 CRITERION= .2602
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3695E-01
 HT FLOW CONVERGENCE VALUE= .1012E-01 CRITERION= .2600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 612
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7092E-04 OSCILLATION LIMIT = 55.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.384 CRITERION= .2601
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3692E-01
 HT FLOW CONVERGENCE VALUE= .1007E-01 CRITERION= .2599 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 613
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7159E-04 OSCILLATION LIMIT = 56.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.388 CRITERION= .2599
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3695E-01
 HT FLOW CONVERGENCE VALUE= .1010E-01 CRITERION= .2597 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 614
 *** TIME = .248516E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7092E-04 OSCILLATION LIMIT = 55.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.384 CRITERION= .2598
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3693E-01
 HT FLOW CONVERGENCE VALUE= .1005E-01 CRITERION= .2596 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 615
 *** TIME = .249305E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7159E-04 OSCILLATION LIMIT = 56.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.389 CRITERION= .2596
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3695E-01
 HT FLOW CONVERGENCE VALUE= .1009E-01 CRITERION= .2594 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 616
 *** TIME = .250094E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7092E-04 OSCILLATION LIMIT = 55.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.384 CRITERION= .2595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3693E-01.
 HT FLOW CONVERGENCE VALUE= .1004E-01 CRITERION= .2593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 617
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7159E-04 OSCILLATION LIMIT = 56.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.389 CRITERION= .2593
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3696E-01
 HT FLOW CONVERGENCE VALUE= .1008E-01 CRITERION= .2592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 618
 *** TIME = .251672E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7092E-04 OSCILLATION LIMIT = 55.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.385 CRITERION= .2592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694E-01
 HT FLOW CONVERGENCE VALUE= .1003E-01 CRITERION= .2590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 619
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7158E-04 OSCILLATION LIMIT = 56.48

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:04:30 JUN 13, 1995 CP= 39527.540
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 1.961 CRITERION= .2590
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5100E-01
 HT FLOW CONVERGENCE VALUE= .1674E-01 CRITERION= .2589 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 620
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2568E-04 OSCILLATION LIMIT = 20.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5112E-01
 HT FLOW CONVERGENCE VALUE= .1686E-01 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 621
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2570E-04 OSCILLATION LIMIT = 20.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.961 CRITERION= .2587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4869E-01
 HT FLOW CONVERGENCE VALUE= .1600E-01 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 622
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2522E-04 OSCILLATION LIMIT = 19.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5098E-01
 HT FLOW CONVERGENCE VALUE= .1674E-01 CRITERION= .2584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 623
 *** TIME = .255617E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .2570E-04  OSCILLATION LIMIT = 20.27
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.961      CRITERION= .2584
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.4901E-01
  HT FLOW CONVERGENCE VALUE= .1607E-01  CRITERION= .2583    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 5 COMPLETED.  CUM ITER = 624
*** TIME = .256406E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2526E-04  OSCILLATION LIMIT = 19.93
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.966      CRITERION= .2583
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.5071E-01
  HT FLOW CONVERGENCE VALUE= .1665E-01  CRITERION= .2581    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 6 COMPLETED.  CUM ITER = 625
*** TIME = .257194E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2566E-04  OSCILLATION LIMIT = 20.25
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.961      CRITERION= .2581
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.4926E-01
  HT FLOW CONVERGENCE VALUE= .1612E-01  CRITERION= .2580    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 7 COMPLETED.  CUM ITER = 626
*** TIME = .257983E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2530E-04  OSCILLATION LIMIT = 19.96
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.966      CRITERION= .2580
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.5051E-01
  HT FLOW CONVERGENCE VALUE= .1658E-01  CRITERION= .2579    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 8 COMPLETED.  CUM ITER = 627
*** TIME = .258772E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2563E-04  OSCILLATION LIMIT = 20.22
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.961      CRITERION= .2579
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.4946E-01
  HT FLOW CONVERGENCE VALUE= .1613E-01  CRITERION= .2578    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 9 COMPLETED.  CUM ITER = 628
*** TIME = .259561E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2533E-04  OSCILLATION LIMIT = 19.98
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.966      CRITERION= .2578
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.5035E-01
  HT FLOW CONVERGENCE VALUE= .1647E-01  CRITERION= .2576    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 10 COMPLETED.  CUM ITER = 629
*** TIME = .260350E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2561E-04  OSCILLATION LIMIT = 20.20
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.961      CRITERION= .2576
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.4960E-01
  HT FLOW CONVERGENCE VALUE= .1613E-01  CRITERION= .2575    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 11 COMPLETED.  CUM ITER = 630
*** TIME = .261139E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2535E-04  OSCILLATION LIMIT = 20.00
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 1.966      CRITERION= .2575
  EQUIL ITER 1 COMPLETED.  NEW TRIANG MATRIX.  MAX DOF INC= -.5024E-01
  HT FLOW CONVERGENCE VALUE= .1642E-01  CRITERION= .2573    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 631
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2559E-04 OSCILLATION LIMIT = 20.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2573
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4972E-01
 HT FLOW CONVERGENCE VALUE= .1614E-01 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 632
 *** TIME = .262717E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2536E-04 OSCILLATION LIMIT = 20.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5016E-01
 HT FLOW CONVERGENCE VALUE= .1638E-01 CRITERION= .2570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 633
 *** TIME = .263506E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2558E-04 OSCILLATION LIMIT = 20.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4981E-01
 HT FLOW CONVERGENCE VALUE= .1615E-01 CRITERION= .2569 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 634
 *** TIME = .264295E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2538E-04 OSCILLATION LIMIT = 20.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5010E-01
 HT FLOW CONVERGENCE VALUE= .1634E-01 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 635
 *** TIME = .265084E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2557E-04 OSCILLATION LIMIT = 20.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2568
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4987E-01
 HT FLOW CONVERGENCE VALUE= .1615E-01 CRITERION= .2566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 636
 *** TIME = .265873E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2538E-04 OSCILLATION LIMIT = 20.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5006E-01
 HT FLOW CONVERGENCE VALUE= .1631E-01 CRITERION= .2565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 637
 *** TIME = .266662E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2556E-04 OSCILLATION LIMIT = 20.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2565
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4992E-01
 HT FLOW CONVERGENCE VALUE= .1615E-01 CRITERION= .2564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 638
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2539E-04 OSCILLATION LIMIT = 20.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5003E-01

HT FLOW CONVERGENCE VALUE= .1628E-01 CRITERION= .2562 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 639
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2556E-04 OSCILLATION LIMIT = 20.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4996E-01
 HT FLOW CONVERGENCE VALUE= .1615E-01 CRITERION= .2561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 640
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2540E-04 OSCILLATION LIMIT = 20.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5001E-01
 HT FLOW CONVERGENCE VALUE= .1626E-01 CRITERION= .2559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 641
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2555E-04 OSCILLATION LIMIT = 20.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5000E-01
 HT FLOW CONVERGENCE VALUE= .1614E-01 CRITERION= .2558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 642
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2540E-04 OSCILLATION LIMIT = 20.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5000E-01
 HT FLOW CONVERGENCE VALUE= .1624E-01 CRITERION= .2557 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 643
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2555E-04 OSCILLATION LIMIT = 20.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5002E-01
 HT FLOW CONVERGENCE VALUE= .1612E-01 CRITERION= .2555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 644
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2540E-04 OSCILLATION LIMIT = 20.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5000E-01
 HT FLOW CONVERGENCE VALUE= .1621E-01 CRITERION= .2554 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 645
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2555E-04 OSCILLATION LIMIT = 20.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5004E-01
 HT FLOW CONVERGENCE VALUE= .1612E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 646
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2541E-04 OSCILLATION LIMIT = 20.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5000E-01
 HT FLOW CONVERGENCE VALUE= .1620E-01 CRITERION= .2551 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 647
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2554E-04 OSCILLATION LIMIT = 20.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5006E-01
 HT FLOW CONVERGENCE VALUE= .1611E-01 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 648
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2541E-04 OSCILLATION LIMIT = 20.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5000E-01
 HT FLOW CONVERGENCE VALUE= .1618E-01 CRITERION= .2548 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 649
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2554E-04 OSCILLATION LIMIT = 20.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2548
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5007E-01
 HT FLOW CONVERGENCE VALUE= .1610E-01 CRITERION= .2547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 650
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2541E-04 OSCILLATION LIMIT = 20.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5001E-01
 HT FLOW CONVERGENCE VALUE= .1616E-01 CRITERION= .2545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 651
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2554E-04 OSCILLATION LIMIT = 20.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5008E-01
 HT FLOW CONVERGENCE VALUE= .1608E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 652
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2541E-04 OSCILLATION LIMIT = 20.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.966 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5001E-01
 HT FLOW CONVERGENCE VALUE= .1614E-01 CRITERION= .2543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 653
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2554E-04 OSCILLATION LIMIT = 20.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5009E-01
 HT FLOW CONVERGENCE VALUE= .1606E-01 CRITERION= .2541 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 654
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2541E-04 OSCILLATION LIMIT = 20.05

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.965 CRITERION= .2542
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5002E-01
HT FLOW CONVERGENCE VALUE= .1612E-01 CRITERION= .2540 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 655
*** TIME = .280863E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2554E-04 OSCILLATION LIMIT = 20.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2540
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5010E-01
HT FLOW CONVERGENCE VALUE= .1604E-01 CRITERION= .2539 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 656
*** TIME = .281652E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2541E-04 OSCILLATION LIMIT = 20.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.965 CRITERION= .2539
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5003E-01
HT FLOW CONVERGENCE VALUE= .1609E-01 CRITERION= .2537 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 657
*** TIME = .282441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2554E-04 OSCILLATION LIMIT = 20.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.960 CRITERION= .2537
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5011E-01
HT FLOW CONVERGENCE VALUE= .1602E-01 CRITERION= .2536 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 658
*** TIME = .283229E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2541E-04 OSCILLATION LIMIT = 20.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.965 CRITERION= .2536
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5004E-01
HT FLOW CONVERGENCE VALUE= .1608E-01 CRITERION= .2534 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 659
*** TIME = .284018E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2554E-04 OSCILLATION LIMIT = 20.15
Apply loads and solve for 10 to 90 years

*DO LOOP ON PARAMETER= TM FROM .31558E+09 TO .28402E+10 BY .31558E+09
TIME= .31558E+09

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE NGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
4464.28518 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=

IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

LOAD LABELS = TEMP

VALUES = 129.27 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP

VALUES = 130.14 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP

VALUES = 132.34 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL

CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE ***

CP= 42134.340 TIME= 12:50:22

Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 12:50:22 JUN 13, 1995 CP= 42134.340
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 22
TIME AT END OF THE LOAD STEP.31558E+09
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2534

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4070E-01

HT FLOW CONVERGENCE VALUE= .1344E-01 CRITERION= .2533 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 660

*** TIME = .284807E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .2324E-04 OSCILLATION LIMIT = 18.33

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.020 CRITERION= .2533

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4017E-01

HT FLOW CONVERGENCE VALUE= .1323E-01 CRITERION= .2532 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 661
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2334E-04 OSCILLATION LIMIT = 18.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2532
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4138E-01
HT FLOW CONVERGENCE VALUE= .1346E-01 CRITERION= .2531 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 662
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2344E-04 OSCILLATION LIMIT = 18.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.020 CRITERION= .2531
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4029E-01
HT FLOW CONVERGENCE VALUE= .1325E-01 CRITERION= .2530 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 663
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2337E-04 OSCILLATION LIMIT = 18.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2530
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4126E-01
HT FLOW CONVERGENCE VALUE= .1341E-01 CRITERION= .2529 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 664
*** TIME = .287963E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2341E-04 OSCILLATION LIMIT = 18.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.020 CRITERION= .2529
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4041E-01
HT FLOW CONVERGENCE VALUE= .1327E-01 CRITERION= .2528 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 665
*** TIME = .288752E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2339E-04 OSCILLATION LIMIT = 18.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2528
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4116E-01
HT FLOW CONVERGENCE VALUE= .1337E-01 CRITERION= .2527 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 666
*** TIME = .289541E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2339E-04 OSCILLATION LIMIT = 18.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.020 CRITERION= .2527
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4051E-01
HT FLOW CONVERGENCE VALUE= .1327E-01 CRITERION= .2526 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 667
*** TIME = .290330E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2341E-04 OSCILLATION LIMIT = 18.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2526
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4109E-01
HT FLOW CONVERGENCE VALUE= .1334E-01 CRITERION= .2525 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 668
*** TIME = .291119E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2337E-04 OSCILLATION LIMIT = 18.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4058E-01

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HT FLOW CONVERGENCE VALUE= .1328E-01 CRITERION= .2523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 669
*** TIME = .291908E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2342E-04 OSCILLATION LIMIT = 18.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4103E-01
HT FLOW CONVERGENCE VALUE= .1332E-01 CRITERION= .2522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 670
*** TIME = .292697E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2336E-04 OSCILLATION LIMIT = 18.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4064E-01
HT FLOW CONVERGENCE VALUE= .1328E-01 CRITERION= .2521 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 671
*** TIME = .293486E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2343E-04 OSCILLATION LIMIT = 18.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2521
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4099E-01
HT FLOW CONVERGENCE VALUE= .1329E-01 CRITERION= .2520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 672
*** TIME = .294275E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2335E-04 OSCILLATION LIMIT = 18.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4069E-01
HT FLOW CONVERGENCE VALUE= .1326E-01 CRITERION= .2519 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 673
*** TIME = .295064E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2344E-04 OSCILLATION LIMIT = 18.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2519
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4096E-01
HT FLOW CONVERGENCE VALUE= .1326E-01 CRITERION= .2518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 674
*** TIME = .295853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2335E-04 OSCILLATION LIMIT = 18.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2518
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4073E-01
HT FLOW CONVERGENCE VALUE= .1326E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 675
*** TIME = .296641E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 18.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4094E-01
HT FLOW CONVERGENCE VALUE= .1324E-01 CRITERION= .2516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 676
*** TIME = .297430E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2334E-04 OSCILLATION LIMIT = 18.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4076E-01
 HT FLOW CONVERGENCE VALUE= .1325E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 677
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 18.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4093E-01
 HT FLOW CONVERGENCE VALUE= .1323E-01 CRITERION= .2514 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 678
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2334E-04 OSCILLATION LIMIT = 18.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2514
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4078E-01
 HT FLOW CONVERGENCE VALUE= .1324E-01 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 679
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2345E-04 OSCILLATION LIMIT = 18.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2512
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4092E-01
 HT FLOW CONVERGENCE VALUE= .1321E-01 CRITERION= .2511 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 680
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2333E-04 OSCILLATION LIMIT = 18.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4080E-01
 HT FLOW CONVERGENCE VALUE= .1323E-01 CRITERION= .2510 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 681
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 18.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4091E-01
 HT FLOW CONVERGENCE VALUE= .1319E-01 CRITERION= .2509 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 682
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2333E-04 OSCILLATION LIMIT = 18.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2509
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4082E-01
 HT FLOW CONVERGENCE VALUE= .1322E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 683
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 18.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4090E-01
 HT FLOW CONVERGENCE VALUE= .1317E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 684
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2333E-04 OSCILLATION LIMIT = 18.41

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2507
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4083E-01
HT FLOW CONVERGENCE VALUE= .1320E-01 CRITERION= .2506 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 685
*** TIME = .304531E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2506
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4090E-01
HT FLOW CONVERGENCE VALUE= .1315E-01 CRITERION= .2505 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 686
*** TIME = .305320E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2333E-04 OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2505
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4084E-01
HT FLOW CONVERGENCE VALUE= .1319E-01 CRITERION= .2504 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 687
*** TIME = .306109E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2504
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4090E-01
HT FLOW CONVERGENCE VALUE= .1314E-01 CRITERION= .2503 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 688
*** TIME = .306898E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2333E-04 OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2503
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4085E-01
HT FLOW CONVERGENCE VALUE= .1318E-01 CRITERION= .2501 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 689
*** TIME = .307687E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2346E-04 OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2501
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4090E-01
HT FLOW CONVERGENCE VALUE= .1313E-01 CRITERION= .2500 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 690
*** TIME = .308476E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2333E-04 OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.019 CRITERION= .2500
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4086E-01
HT FLOW CONVERGENCE VALUE= .1315E-01 CRITERION= .2499 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 691
*** TIME = .309265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2347E-04 OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 2.014 CRITERION= .2499
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4091E-01
HT FLOW CONVERGENCE VALUE= .1310E-01 CRITERION= .2498 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 692

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*** TIME = .310053E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2333E-04    OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 2.019    CRITERION= .2498
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4087E-01
    HT FLOW CONVERGENCE VALUE= .1313E-01    CRITERION= .2497    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 34 COMPLETED.    CUM ITER = 693
*** TIME = .310842E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2347E-04    OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 2.014    CRITERION= .2497
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4091E-01
    HT FLOW CONVERGENCE VALUE= .1308E-01    CRITERION= .2496    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 35 COMPLETED.    CUM ITER = 694
*** TIME = .311631E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2333E-04    OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 2.019    CRITERION= .2496
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4088E-01
    HT FLOW CONVERGENCE VALUE= .1312E-01    CRITERION= .2495    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 36 COMPLETED.    CUM ITER = 695
*** TIME = .312420E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2347E-04    OSCILLATION LIMIT = 18.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 2.014    CRITERION= .2495
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4091E-01
    HT FLOW CONVERGENCE VALUE= .1307E-01    CRITERION= .2494    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 37 COMPLETED.    CUM ITER = 696
*** TIME = .313209E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2333E-04    OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 2.019    CRITERION= .2494
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4089E-01
    HT FLOW CONVERGENCE VALUE= .1310E-01    CRITERION= .2493    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 38 COMPLETED.    CUM ITER = 697
*** TIME = .313998E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2347E-04    OSCILLATION LIMIT = 18.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 2.014    CRITERION= .2493
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4092E-01
    HT FLOW CONVERGENCE VALUE= .1305E-01    CRITERION= .2492    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 39 COMPLETED.    CUM ITER = 698
*** TIME = .314787E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2333E-04    OSCILLATION LIMIT = 18.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 2.019    CRITERION= .2492
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4090E-01
    HT FLOW CONVERGENCE VALUE= .1309E-01    CRITERION= .2490    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 40 COMPLETED.    CUM ITER = 699
*** TIME = .315576E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2347E-04    OSCILLATION LIMIT = 18.52

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 13:52:03 JUN 13, 1995 CP= 44766.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 31.69 CRITERION= .2510
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4636
 HT FLOW CONVERGENCE VALUE= .1478 CRITERION= .2480 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 700
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1982E-04 OSCILLATION LIMIT = 156.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.70 CRITERION= .2499
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4261
 HT FLOW CONVERGENCE VALUE= .1422 CRITERION= .2469 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 701
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1869E-04 OSCILLATION LIMIT = 147.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.69 CRITERION= .2489
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4274
 HT FLOW CONVERGENCE VALUE= .1412 CRITERION= .2458 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 702
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1870E-04 OSCILLATION LIMIT = 147.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.69 CRITERION= .2478
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4287
 HT FLOW CONVERGENCE VALUE= .1403 CRITERION= .2447 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 703
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1875E-04 OSCILLATION LIMIT = 147.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.68 CRITERION= .2467
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4280
 HT FLOW CONVERGENCE VALUE= .1389 CRITERION= .2437 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 704
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1871E-04 OSCILLATION LIMIT = 147.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.68 CRITERION= .2457
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4293
 HT FLOW CONVERGENCE VALUE= .1388 CRITERION= .2426 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 705
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1875E-04 OSCILLATION LIMIT = 147.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.67 CRITERION= .2446
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4286
 HT FLOW CONVERGENCE VALUE= .1378 CRITERION= .2415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 706
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1872E-04 OSCILLATION LIMIT = 147.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.67 CRITERION= .2435
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4300
 HT FLOW CONVERGENCE VALUE= .1374 CRITERION= .2404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 707
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1876E-04 OSCILLATION LIMIT = 148.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.66 CRITERION= .2424
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4295
 HT FLOW CONVERGENCE VALUE= .1365 CRITERION= .2393 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 708
 *** TIME = .386581E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1873E-04 OSCILLATION LIMIT = 147.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.66 CRITERION= .2414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4310
 HT FLOW CONVERGENCE VALUE= .1358 CRITERION= .2383 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 709
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1877E-04 OSCILLATION LIMIT = 148.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.65 CRITERION= .2403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4304
 HT FLOW CONVERGENCE VALUE= .1348 CRITERION= .2372 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 710
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1873E-04 OSCILLATION LIMIT = 147.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.66 CRITERION= .2393
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4317
 HT FLOW CONVERGENCE VALUE= .1346 CRITERION= .2361 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 711
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1878E-04 OSCILLATION LIMIT = 148.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.65 CRITERION= .2382
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4313
 HT FLOW CONVERGENCE VALUE= .1338 CRITERION= .2350 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 712
 *** TIME = .418138E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1874E-04 OSCILLATION LIMIT = 147.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.65 CRITERION= .2371
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4325
 HT FLOW CONVERGENCE VALUE= .1334 CRITERION= .2339 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 713
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1879E-04 OSCILLATION LIMIT = 148.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.64 CRITERION= .2360
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4319
 HT FLOW CONVERGENCE VALUE= .1325 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 714
 *** TIME = .433917E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .1875E-04  OSCILLATION LIMIT = 148.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.64  CRITERION= .2350
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4332
  HT FLOW CONVERGENCE VALUE= .1324  CRITERION= .2318  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 16 COMPLETED.  CUM ITER = 715
*** TIME = .441806E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1879E-04  OSCILLATION LIMIT = 148.3
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.63  CRITERION= .2339
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4326
  HT FLOW CONVERGENCE VALUE= .1318  CRITERION= .2307  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 17 COMPLETED.  CUM ITER = 716
*** TIME = .449696E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1876E-04  OSCILLATION LIMIT = 148.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.63  CRITERION= .2328
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4338
  HT FLOW CONVERGENCE VALUE= .1315  CRITERION= .2296  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 18 COMPLETED.  CUM ITER = 717
*** TIME = .457585E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1880E-04  OSCILLATION LIMIT = 148.3
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.62  CRITERION= .2318
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4333
  HT FLOW CONVERGENCE VALUE= .1307  CRITERION= .2286  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 19 COMPLETED.  CUM ITER = 718
*** TIME = .465475E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1877E-04  OSCILLATION LIMIT = 148.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.62  CRITERION= .2307
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4346
  HT FLOW CONVERGENCE VALUE= .1305  CRITERION= .2275  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 20 COMPLETED.  CUM ITER = 719
*** TIME = .473364E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1881E-04  OSCILLATION LIMIT = 148.4
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.61  CRITERION= .2296
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4341
  HT FLOW CONVERGENCE VALUE= .1299  CRITERION= .2264  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 21 COMPLETED.  CUM ITER = 720
*** TIME = .481253E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1878E-04  OSCILLATION LIMIT = 148.2
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.61  CRITERION= .2286
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4354
  HT FLOW CONVERGENCE VALUE= .1299  CRITERION= .2253  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 22 COMPLETED.  CUM ITER = 721
*** TIME = .489143E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1882E-04  OSCILLATION LIMIT = 148.5
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 31.60  CRITERION= .2275
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4351
  HT FLOW CONVERGENCE VALUE= .1258  CRITERION= .2243  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 722
*** TIME = .497032E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1879E-04 OSCILLATION LIMIT = 148.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.61 CRITERION= .2264
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4364
HT FLOW CONVERGENCE VALUE= .1239 CRITERION= .2232 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 723
*** TIME = .504922E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1883E-04 OSCILLATION LIMIT = 148.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.60 CRITERION= .2253
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4361
HT FLOW CONVERGENCE VALUE= .1235 CRITERION= .2221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 724
*** TIME = .512811E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1880E-04 OSCILLATION LIMIT = 148.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.60 CRITERION= .2243
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4372
HT FLOW CONVERGENCE VALUE= .1229 CRITERION= .2210 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 725
*** TIME = .520700E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1884E-04 OSCILLATION LIMIT = 148.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.59 CRITERION= .2232
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4368
HT FLOW CONVERGENCE VALUE= .1211 CRITERION= .2199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 726
*** TIME = .528590E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1881E-04 OSCILLATION LIMIT = 148.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.59 CRITERION= .2222
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4380
HT FLOW CONVERGENCE VALUE= .1209 CRITERION= .2188 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 727
*** TIME = .536479E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1885E-04 OSCILLATION LIMIT = 148.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.58 CRITERION= .2211
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4376
HT FLOW CONVERGENCE VALUE= .1202 CRITERION= .2178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 728
*** TIME = .544369E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1882E-04 OSCILLATION LIMIT = 148.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.58 CRITERION= .2200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4387
HT FLOW CONVERGENCE VALUE= .1199 CRITERION= .2167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 729
*** TIME = .552258E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1885E-04 OSCILLATION LIMIT = 148.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.57 CRITERION= .2189
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4384

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HT FLOW CONVERGENCE VALUE= .1192 CRITERION= .2156 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 730
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1883E-04 OSCILLATION LIMIT = 148.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.57 CRITERION= .2179
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4396
 HT FLOW CONVERGENCE VALUE= .1189 CRITERION= .2145 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 731
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1886E-04 OSCILLATION LIMIT = 148.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.56 CRITERION= .2168
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4393
 HT FLOW CONVERGENCE VALUE= .1180 CRITERION= .2135 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 732
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1884E-04 OSCILLATION LIMIT = 148.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.56 CRITERION= .2157
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4404
 HT FLOW CONVERGENCE VALUE= .1178 CRITERION= .2124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 733
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1887E-04 OSCILLATION LIMIT = 148.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.55 CRITERION= .2146
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4400
 HT FLOW CONVERGENCE VALUE= .1171 CRITERION= .2113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 734
 *** TIME = .591705E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1884E-04 OSCILLATION LIMIT = 148.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.56 CRITERION= .2136
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4411
 HT FLOW CONVERGENCE VALUE= .1170 CRITERION= .2102 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 735
 *** TIME = .599594E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1888E-04 OSCILLATION LIMIT = 148.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.55 CRITERION= .2125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4408
 HT FLOW CONVERGENCE VALUE= .1162 CRITERION= .2091 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 736
 *** TIME = .607484E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1885E-04 OSCILLATION LIMIT = 148.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.55 CRITERION= .2115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4420
 HT FLOW CONVERGENCE VALUE= .1159 CRITERION= .2080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 737
 *** TIME = .615373E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1888E-04 OSCILLATION LIMIT = 149.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.54 CRITERION= .2104
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4418
 HT FLOW CONVERGENCE VALUE= .1153 CRITERION= .2070 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 738
 *** TIME = .623263E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1886E-04 OSCILLATION LIMIT = 148.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.54 CRITERION= .2093
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4429
 HT FLOW CONVERGENCE VALUE= .1147 CRITERION= .2059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 739
 *** TIME = .631152E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1889E-04 OSCILLATION LIMIT = 149.1

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:42:25 JUN 13, 1995 CP= 47383.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 43.04 CRITERION= .2103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3731
 HT FLOW CONVERGENCE VALUE= .1078 CRITERION= .2051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 740
 *** TIME = .639041E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1223E-04 OSCILLATION LIMIT = 96.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.04 CRITERION= .2095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3760
 HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .2042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 741
 *** TIME = .646931E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1231E-04 OSCILLATION LIMIT = 97.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.03 CRITERION= .2087
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3765
 HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .2035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 742
 *** TIME = .654820E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1231E-04 OSCILLATION LIMIT = 97.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.02 CRITERION= .2079
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3765
 HT FLOW CONVERGENCE VALUE= .1066 CRITERION= .2026 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 743
 *** TIME = .662710E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1232E-04 OSCILLATION LIMIT = 97.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3770
 HT FLOW CONVERGENCE VALUE= .1062 CRITERION= .2018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 744
 *** TIME = .670599E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1232E-04 OSCILLATION LIMIT = 97.20

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.01 CRITERION= .2063
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3771
HT FLOW CONVERGENCE VALUE= .1052 CRITERION= .2010 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 745

*** TIME = .678488E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1233E-04 OSCILLATION LIMIT = 97.27

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 43.00 CRITERION= .2055
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3776
HT FLOW CONVERGENCE VALUE= .1037 CRITERION= .2002 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 746

*** TIME = .686378E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1233E-04 OSCILLATION LIMIT = 97.29

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.99 CRITERION= .2048
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3777
HT FLOW CONVERGENCE VALUE= .1028 CRITERION= .1994 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 747

*** TIME = .694267E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1234E-04 OSCILLATION LIMIT = 97.37

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.98 CRITERION= .2039
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3782
HT FLOW CONVERGENCE VALUE= .1017 CRITERION= .1986 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 748

*** TIME = .702157E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1235E-04 OSCILLATION LIMIT = 97.40

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.98 CRITERION= .2032
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3783
HT FLOW CONVERGENCE VALUE= .1001 CRITERION= .1978 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 749

*** TIME = .710046E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1236E-04 OSCILLATION LIMIT = 97.48

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.97 CRITERION= .2024
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3787
HT FLOW CONVERGENCE VALUE= .9949E-01 CRITERION= .1970 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 750

*** TIME = .717935E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1236E-04 OSCILLATION LIMIT = 97.49

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.96 CRITERION= .2016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3787
HT FLOW CONVERGENCE VALUE= .9869E-01 CRITERION= .1962 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 751

*** TIME = .725825E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1237E-04 OSCILLATION LIMIT = 97.55

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.95 CRITERION= .2008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3791
HT FLOW CONVERGENCE VALUE= .9835E-01 CRITERION= .1954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 752

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*** TIME = .733714E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1237E-04    OSCILLATION LIMIT = 97.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.95    CRITERION= .2000
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3792
    HT FLOW CONVERGENCE VALUE= .9807E-01    CRITERION= .1946    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 753
*** TIME = .741604E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1237E-04    OSCILLATION LIMIT = 97.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.93    CRITERION= .1992
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3796
    HT FLOW CONVERGENCE VALUE= .9770E-01    CRITERION= .1938    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 754
*** TIME = .749493E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1238E-04    OSCILLATION LIMIT = 97.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.93    CRITERION= .1984
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3796
    HT FLOW CONVERGENCE VALUE= .9733E-01    CRITERION= .1929    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 755
*** TIME = .757382E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1239E-04    OSCILLATION LIMIT = 97.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.92    CRITERION= .1976
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3801
    HT FLOW CONVERGENCE VALUE= .9688E-01    CRITERION= .1921    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 756
*** TIME = .765272E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1239E-04    OSCILLATION LIMIT = 97.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.92    CRITERION= .1968
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3801
    HT FLOW CONVERGENCE VALUE= .9589E-01    CRITERION= .1913    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 757
*** TIME = .773161E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1240E-04    OSCILLATION LIMIT = 97.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.90    CRITERION= .1960
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3805
    HT FLOW CONVERGENCE VALUE= .9556E-01    CRITERION= .1905    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 758
*** TIME = .781051E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1240E-04    OSCILLATION LIMIT = 97.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.90    CRITERION= .1953
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3806
    HT FLOW CONVERGENCE VALUE= .9527E-01    CRITERION= .1897    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 759
*** TIME = .788940E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1241E-04    OSCILLATION LIMIT = 97.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 42.89    CRITERION= .1945
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3811
    HT FLOW CONVERGENCE VALUE= .9487E-01    CRITERION= .1889    <<< CONVERGED
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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 760
*** TIME = .796829E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1241E-04 OSCILLATION LIMIT = 97.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.89 CRITERION= .1937
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3811
HT FLOW CONVERGENCE VALUE= .9464E-01 CRITERION= .1881 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 761
*** TIME = .804719E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1242E-04 OSCILLATION LIMIT = 97.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.87 CRITERION= .1929
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3816
HT FLOW CONVERGENCE VALUE= .9425E-01 CRITERION= .1873 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 762
*** TIME = .812608E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1242E-04 OSCILLATION LIMIT = 97.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.87 CRITERION= .1921
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3816
HT FLOW CONVERGENCE VALUE= .9386E-01 CRITERION= .1865 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 763
*** TIME = .820498E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1243E-04 OSCILLATION LIMIT = 98.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.86 CRITERION= .1913
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3820
HT FLOW CONVERGENCE VALUE= .9320E-01 CRITERION= .1857 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 764
*** TIME = .828387E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1243E-04 OSCILLATION LIMIT = 98.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.86 CRITERION= .1905
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3821
HT FLOW CONVERGENCE VALUE= .9279E-01 CRITERION= .1848 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 765
*** TIME = .836276E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1244E-04 OSCILLATION LIMIT = 98.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.84 CRITERION= .1897
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3826
HT FLOW CONVERGENCE VALUE= .9244E-01 CRITERION= .1840 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 766
*** TIME = .844166E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1244E-04 OSCILLATION LIMIT = 98.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.84 CRITERION= .1889
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3826
HT FLOW CONVERGENCE VALUE= .9218E-01 CRITERION= .1832 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 767
*** TIME = .852055E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.83 CRITERION= .1881

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3831
 HT FLOW CONVERGENCE VALUE= .9184E-01 CRITERION= .1824 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 768
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.82 CRITERION= .1874
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3831
 HT FLOW CONVERGENCE VALUE= .9227E-01 CRITERION= .1816 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 769
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 98.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.81 CRITERION= .1865
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3835
 HT FLOW CONVERGENCE VALUE= .9212E-01 CRITERION= .1808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 770
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 98.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.81 CRITERION= .1858
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3836
 HT FLOW CONVERGENCE VALUE= .9221E-01 CRITERION= .1800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 771
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.80 CRITERION= .1850
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3840
 HT FLOW CONVERGENCE VALUE= .9200E-01 CRITERION= .1792 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 772
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.79 CRITERION= .1842
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3841
 HT FLOW CONVERGENCE VALUE= .9202E-01 CRITERION= .1784 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 773
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 98.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.78 CRITERION= .1834
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3845
 HT FLOW CONVERGENCE VALUE= .9154E-01 CRITERION= .1776 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 774
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 98.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.78 CRITERION= .1826
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3846
 HT FLOW CONVERGENCE VALUE= .9127E-01 CRITERION= .1767 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 775
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1249E-04 OSCILLATION LIMIT = 98.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.77 CRITERION= .1818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3850
 HT FLOW CONVERGENCE VALUE= .9092E-01 CRITERION= .1759 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 776
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1249E-04 OSCILLATION LIMIT = 98.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.76 CRITERION= .1810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3850
 HT FLOW CONVERGENCE VALUE= .9059E-01 CRITERION= .1751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 777
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 98.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.75 CRITERION= .1802
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3854
 HT FLOW CONVERGENCE VALUE= .9014E-01 CRITERION= .1743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 778
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 98.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.75 CRITERION= .1795
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3855
 HT FLOW CONVERGENCE VALUE= .9019E-01 CRITERION= .1735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 779
 *** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 98.67

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:32:16 JUN 13, 1995 CP= 49998.510
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 49.90 CRITERION= .1805
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3333
 HT FLOW CONVERGENCE VALUE= .8579E-01 CRITERION= .1729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 780
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8113E-05 OSCILLATION LIMIT = 64.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.89 CRITERION= .1799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3347
 HT FLOW CONVERGENCE VALUE= .8527E-01 CRITERION= .1723 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 781
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8146E-05 OSCILLATION LIMIT = 64.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.88 CRITERION= .1793
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3357
 HT FLOW CONVERGENCE VALUE= .8497E-01 CRITERION= .1716 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 782
 *** TIME = .970396E+09 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .8174E-05  OSCILLATION LIMIT = 64.49
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.87  CRITERION= .1787
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3350
  HT FLOW CONVERGENCE VALUE= .8426E-01 CRITERION= .1710  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 783
*** TIME = .978286E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8158E-05  OSCILLATION LIMIT = 64.36
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.86  CRITERION= .1781
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3360
  HT FLOW CONVERGENCE VALUE= .8286E-01 CRITERION= .1704  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 784
*** TIME = .986175E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8182E-05  OSCILLATION LIMIT = 64.55
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.85  CRITERION= .1775
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3353
  HT FLOW CONVERGENCE VALUE= .8194E-01 CRITERION= .1698  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 785
*** TIME = .994064E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8160E-05  OSCILLATION LIMIT = 64.38
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.84  CRITERION= .1769
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3362
  HT FLOW CONVERGENCE VALUE= .8171E-01 CRITERION= .1692  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 786
*** TIME = .100195E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8181E-05  OSCILLATION LIMIT = 64.54
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.83  CRITERION= .1763
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3356
  HT FLOW CONVERGENCE VALUE= .8342E-01 CRITERION= .1685  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 787
*** TIME = .100984E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8167E-05  OSCILLATION LIMIT = 64.43
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.82  CRITERION= .1757
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3365
  HT FLOW CONVERGENCE VALUE= .8522E-01 CRITERION= .1679  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 788
*** TIME = .101773E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8188E-05  OSCILLATION LIMIT = 64.60
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.81  CRITERION= .1751
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3358
  HT FLOW CONVERGENCE VALUE= .8484E-01 CRITERION= .1673  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 789
*** TIME = .102562E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8172E-05  OSCILLATION LIMIT = 64.47
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 49.79  CRITERION= .1745
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3367
  HT FLOW CONVERGENCE VALUE= .8448E-01 CRITERION= .1667  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 790
*** TIME = .103351E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8191E-05 OSCILLATION LIMIT = 64.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.79 CRITERION= .1740
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3361
HT FLOW CONVERGENCE VALUE= .8399E-01 CRITERION= .1661 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 791
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8177E-05 OSCILLATION LIMIT = 64.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.77 CRITERION= .1733
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3370
HT FLOW CONVERGENCE VALUE= .8391E-01 CRITERION= .1655 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 792
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8197E-05 OSCILLATION LIMIT = 64.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.77 CRITERION= .1728
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3364
HT FLOW CONVERGENCE VALUE= .8485E-01 CRITERION= .1648 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 793
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8184E-05 OSCILLATION LIMIT = 64.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.75 CRITERION= .1721
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3373
HT FLOW CONVERGENCE VALUE= .8467E-01 CRITERION= .1642 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 794
*** TIME = .106507E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8204E-05 OSCILLATION LIMIT = 64.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.75 CRITERION= .1716
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3367
HT FLOW CONVERGENCE VALUE= .8451E-01 CRITERION= .1636 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 795
*** TIME = .107296E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8193E-05 OSCILLATION LIMIT = 64.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.73 CRITERION= .1710
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3376
HT FLOW CONVERGENCE VALUE= .8432E-01 CRITERION= .1630 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 796
*** TIME = .108085E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8214E-05 OSCILLATION LIMIT = 64.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.73 CRITERION= .1704
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3371
HT FLOW CONVERGENCE VALUE= .8410E-01 CRITERION= .1623 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 797
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8203E-05 OSCILLATION LIMIT = 64.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.71 CRITERION= .1698
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3380

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HT FLOW CONVERGENCE VALUE= .8393E-01 CRITERION= .1617 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 798
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8223E-05 OSCILLATION LIMIT = 64.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.71 CRITERION= .1692
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3375
 HT FLOW CONVERGENCE VALUE= .8367E-01 CRITERION= .1611 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 799
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8213E-05 OSCILLATION LIMIT = 64.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.69 CRITERION= .1686
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3383
 HT FLOW CONVERGENCE VALUE= .8350E-01 CRITERION= .1605 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 800
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8233E-05 OSCILLATION LIMIT = 64.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.68 CRITERION= .1680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3379
 HT FLOW CONVERGENCE VALUE= .8332E-01 CRITERION= .1599 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 801
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8224E-05 OSCILLATION LIMIT = 64.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.67 CRITERION= .1674
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3387
 HT FLOW CONVERGENCE VALUE= .8318E-01 CRITERION= .1593 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 802
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8243E-05 OSCILLATION LIMIT = 65.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.66 CRITERION= .1668
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3382
 HT FLOW CONVERGENCE VALUE= .8297E-01 CRITERION= .1586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 803
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8234E-05 OSCILLATION LIMIT = 64.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.65 CRITERION= .1662
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3390
 HT FLOW CONVERGENCE VALUE= .8245E-01 CRITERION= .1580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 804
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8253E-05 OSCILLATION LIMIT = 65.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.64 CRITERION= .1656
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3386
 HT FLOW CONVERGENCE VALUE= .8203E-01 CRITERION= .1574 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 805
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8245E-05 OSCILLATION LIMIT = 65.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.63 CRITERION= .1650
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3394
 HT FLOW CONVERGENCE VALUE= .8184E-01 CRITERION= .1568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 806
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8263E-05 OSCILLATION LIMIT = 65.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.62 CRITERION= .1644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3390
 HT FLOW CONVERGENCE VALUE= .8164E-01 CRITERION= .1561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 807
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8256E-05 OSCILLATION LIMIT = 65.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.61 CRITERION= .1638
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3398
 HT FLOW CONVERGENCE VALUE= .8136E-01 CRITERION= .1555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 808
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8274E-05 OSCILLATION LIMIT = 65.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.60 CRITERION= .1632
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3394
 HT FLOW CONVERGENCE VALUE= .8124E-01 CRITERION= .1549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 809
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8267E-05 OSCILLATION LIMIT = 65.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.59 CRITERION= .1626
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3402
 HT FLOW CONVERGENCE VALUE= .8110E-01 CRITERION= .1543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 810
 *** TIME = .119130E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8284E-05 OSCILLATION LIMIT = 65.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.58 CRITERION= .1620
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3398
 HT FLOW CONVERGENCE VALUE= .8084E-01 CRITERION= .1537 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 811
 *** TIME = .119919E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8277E-05 OSCILLATION LIMIT = 65.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.56 CRITERION= .1614
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3405
 HT FLOW CONVERGENCE VALUE= .8062E-01 CRITERION= .1531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 812
 *** TIME = .120708E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8294E-05 OSCILLATION LIMIT = 65.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.56 CRITERION= .1609
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3402
 HT FLOW CONVERGENCE VALUE= .8043E-01 CRITERION= .1524 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 813
 *** TIME = .121497E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8288E-05 OSCILLATION LIMIT = 65.38

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.54 CRITERION= .1602
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3409
 HT FLOW CONVERGENCE VALUE= .8038E-01 CRITERION= .1518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 814
 *** TIME = .122286E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8304E-05 OSCILLATION LIMIT = 65.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.54 CRITERION= .1597
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3405
 HT FLOW CONVERGENCE VALUE= .8013E-01 CRITERION= .1512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 815
 *** TIME = .123075E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8298E-05 OSCILLATION LIMIT = 65.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.52 CRITERION= .1591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3413
 HT FLOW CONVERGENCE VALUE= .7998E-01 CRITERION= .1506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 816
 *** TIME = .123864E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8314E-05 OSCILLATION LIMIT = 65.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.52 CRITERION= .1585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3409
 HT FLOW CONVERGENCE VALUE= .7889E-01 CRITERION= .1499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 817
 *** TIME = .124653E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8310E-05 OSCILLATION LIMIT = 65.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.50 CRITERION= .1579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3416
 HT FLOW CONVERGENCE VALUE= .7756E-01 CRITERION= .1493 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 818
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8324E-05 OSCILLATION LIMIT = 65.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 49.50 CRITERION= .1573
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3412
 HT FLOW CONVERGENCE VALUE= .7735E-01 CRITERION= .1487 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 819
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8317E-05 OSCILLATION LIMIT = 65.62

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 16:29:56 JUN 13, 1995 CP= 52632.170
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 42.08 CRITERION= .1545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2801
 HT FLOW CONVERGENCE VALUE= .6443E-01 CRITERION= .1482 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 820

*** TIME = .127019E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7823E-05 OSCILLATION LIMIT = 61.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.08 CRITERION= .1540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2829
 HT FLOW CONVERGENCE VALUE= .6381E-01 CRITERION= .1477 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 821
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7951E-05 OSCILLATION LIMIT = 62.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.06 CRITERION= .1535
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2843
 HT FLOW CONVERGENCE VALUE= .6393E-01 CRITERION= .1472 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 822
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8007E-05 OSCILLATION LIMIT = 63.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.06 CRITERION= .1531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2830
 HT FLOW CONVERGENCE VALUE= .6361E-01 CRITERION= .1467 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 823
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7954E-05 OSCILLATION LIMIT = 62.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.05 CRITERION= .1526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2846
 HT FLOW CONVERGENCE VALUE= .6403E-01 CRITERION= .1462 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 824
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8015E-05 OSCILLATION LIMIT = 63.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.05 CRITERION= .1521
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2832
 HT FLOW CONVERGENCE VALUE= .6497E-01 CRITERION= .1456 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 825
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7962E-05 OSCILLATION LIMIT = 62.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.03 CRITERION= .1516
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2848
 HT FLOW CONVERGENCE VALUE= .6551E-01 CRITERION= .1452 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 826
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8021E-05 OSCILLATION LIMIT = 63.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.03 CRITERION= .1511
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2834
 HT FLOW CONVERGENCE VALUE= .6517E-01 CRITERION= .1446 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 827
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7970E-05 OSCILLATION LIMIT = 62.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.02 CRITERION= .1506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2850
 HT FLOW CONVERGENCE VALUE= .6529E-01 CRITERION= .1441 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 828
*** TIME = .133331E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8028E-05 OSCILLATION LIMIT = 63.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.02 CRITERION= .1501
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2837
HT FLOW CONVERGENCE VALUE= .6551E-01 CRITERION= .1436 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 829
*** TIME = .134120E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7980E-05 OSCILLATION LIMIT = 62.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.00 CRITERION= .1496
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2852
HT FLOW CONVERGENCE VALUE= .6541E-01 CRITERION= .1431 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 830
*** TIME = .134909E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8036E-05 OSCILLATION LIMIT = 63.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 42.00 CRITERION= .1491
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2840
HT FLOW CONVERGENCE VALUE= .6507E-01 CRITERION= .1426 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 831
*** TIME = .135698E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7990E-05 OSCILLATION LIMIT = 63.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.99 CRITERION= .1486
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2855
HT FLOW CONVERGENCE VALUE= .6521E-01 CRITERION= .1421 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 832
*** TIME = .136487E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8044E-05 OSCILLATION LIMIT = 63.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.99 CRITERION= .1482
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2843
HT FLOW CONVERGENCE VALUE= .6496E-01 CRITERION= .1416 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 833
*** TIME = .137276E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8000E-05 OSCILLATION LIMIT = 63.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.97 CRITERION= .1476
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2858
HT FLOW CONVERGENCE VALUE= .6459E-01 CRITERION= .1411 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 834
*** TIME = .138065E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8053E-05 OSCILLATION LIMIT = 63.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.97 CRITERION= .1472
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2846
HT FLOW CONVERGENCE VALUE= .6420E-01 CRITERION= .1406 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 835
*** TIME = .138853E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8010E-05 OSCILLATION LIMIT = 63.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.96 CRITERION= .1467

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2860
HT FLOW CONVERGENCE VALUE= .6396E-01 CRITERION= .1401 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 836
*** TIME = .139642E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8061E-05 OSCILLATION LIMIT = 63.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.96 CRITERION= .1462
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2849
HT FLOW CONVERGENCE VALUE= .6356E-01 CRITERION= .1395 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 837
*** TIME = .140431E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8020E-05 OSCILLATION LIMIT = 63.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.94 CRITERION= .1457
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2863
HT FLOW CONVERGENCE VALUE= .6289E-01 CRITERION= .1390 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 838
*** TIME = .141220E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8071E-05 OSCILLATION LIMIT = 63.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.94 CRITERION= .1452
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2852
HT FLOW CONVERGENCE VALUE= .6231E-01 CRITERION= .1385 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 839
*** TIME = .142009E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8031E-05 OSCILLATION LIMIT = 63.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.93 CRITERION= .1447
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2866
HT FLOW CONVERGENCE VALUE= .6203E-01 CRITERION= .1380 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 840
*** TIME = .142798E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8080E-05 OSCILLATION LIMIT = 63.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.93 CRITERION= .1442
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2855
HT FLOW CONVERGENCE VALUE= .6144E-01 CRITERION= .1375 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 841
*** TIME = .143587E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8041E-05 OSCILLATION LIMIT = 63.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.91 CRITERION= .1437
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2868
HT FLOW CONVERGENCE VALUE= .6084E-01 CRITERION= .1370 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 842
*** TIME = .144376E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8088E-05 OSCILLATION LIMIT = 63.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.91 CRITERION= .1433
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2858
HT FLOW CONVERGENCE VALUE= .6015E-01 CRITERION= .1365 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 843
*** TIME = .145165E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8050E-05 OSCILLATION LIMIT = 63.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 41.90    CRITERION= .1427
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2870
HT FLOW CONVERGENCE VALUE= .5997E-01 CRITERION= .1360    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 844
*** TIME = .145954E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8094E-05 OSCILLATION LIMIT = 63.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.90    CRITERION= .1423
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2860
HT FLOW CONVERGENCE VALUE= .5949E-01 CRITERION= .1355    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 845
*** TIME = .146743E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8057E-05 OSCILLATION LIMIT = 63.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.88    CRITERION= .1418
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2872
HT FLOW CONVERGENCE VALUE= .5910E-01 CRITERION= .1350    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 846
*** TIME = .147532E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8101E-05 OSCILLATION LIMIT = 63.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.88    CRITERION= .1413
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2863
HT FLOW CONVERGENCE VALUE= .5932E-01 CRITERION= .1344    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 847
*** TIME = .148321E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8067E-05 OSCILLATION LIMIT = 63.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.87    CRITERION= .1408
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2875
HT FLOW CONVERGENCE VALUE= .5972E-01 CRITERION= .1339    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 848
*** TIME = .149110E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8109E-05 OSCILLATION LIMIT = 63.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.87    CRITERION= .1403
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2865
HT FLOW CONVERGENCE VALUE= .5940E-01 CRITERION= .1334    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 849
*** TIME = .149899E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8074E-05 OSCILLATION LIMIT = 63.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.85    CRITERION= .1398
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2877
HT FLOW CONVERGENCE VALUE= .5922E-01 CRITERION= .1329    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 850
*** TIME = .150688E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8115E-05 OSCILLATION LIMIT = 64.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.85    CRITERION= .1393
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2868
HT FLOW CONVERGENCE VALUE= .5877E-01 CRITERION= .1324    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 851
*** TIME = .151476E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .8083E-05 OSCILLATION LIMIT = 63.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.84 CRITERION= .1388
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2879
 HT FLOW CONVERGENCE VALUE= .5853E-01 CRITERION= .1319 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 852
 *** TIME = .152265E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8123E-05 OSCILLATION LIMIT = 64.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.84 CRITERION= .1384
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2871
 HT FLOW CONVERGENCE VALUE= .5804E-01 CRITERION= .1314 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 853
 *** TIME = .153054E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8092E-05 OSCILLATION LIMIT = 63.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.82 CRITERION= .1379
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2882
 HT FLOW CONVERGENCE VALUE= .5742E-01 CRITERION= .1309 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 854
 *** TIME = .153843E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8131E-05 OSCILLATION LIMIT = 64.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.82 CRITERION= .1374
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2874
 HT FLOW CONVERGENCE VALUE= .5667E-01 CRITERION= .1304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 855
 *** TIME = .154632E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8101E-05 OSCILLATION LIMIT = 63.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.81 CRITERION= .1369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2884
 HT FLOW CONVERGENCE VALUE= .5618E-01 CRITERION= .1299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 856
 *** TIME = .155421E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8140E-05 OSCILLATION LIMIT = 64.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.81 CRITERION= .1364
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2876
 HT FLOW CONVERGENCE VALUE= .5538E-01 CRITERION= .1293 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 857
 *** TIME = .156210E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8111E-05 OSCILLATION LIMIT = 63.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.79 CRITERION= .1359
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2887
 HT FLOW CONVERGENCE VALUE= .5474E-01 CRITERION= .1288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 858
 *** TIME = .156999E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .8149E-05 OSCILLATION LIMIT = 64.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 41.79 CRITERION= .1354
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2880
 HT FLOW CONVERGENCE VALUE= .5414E-01 CRITERION= .1283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 859
*** TIME = .157788E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .8122E-05 OSCILLATION LIMIT = 64.08

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 17:26:56 JUN 13, 1995 CP= 55261.490
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 34.54 CRITERION= .1329
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2280
HT FLOW CONVERGENCE VALUE= .4328E-01 CRITERION= .1279 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 860
*** TIME = .158577E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7534E-05 OSCILLATION LIMIT = 59.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.54 CRITERION= .1325
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2300
HT FLOW CONVERGENCE VALUE= .4305E-01 CRITERION= .1275 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 861
*** TIME = .159366E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7637E-05 OSCILLATION LIMIT = 60.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.53 CRITERION= .1321
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2318
HT FLOW CONVERGENCE VALUE= .4296E-01 CRITERION= .1271 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 862
*** TIME = .160155E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7731E-05 OSCILLATION LIMIT = 60.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.53 CRITERION= .1317
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2301
HT FLOW CONVERGENCE VALUE= .4256E-01 CRITERION= .1267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 863
*** TIME = .160944E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7642E-05 OSCILLATION LIMIT = 60.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.52 CRITERION= .1313
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2320
HT FLOW CONVERGENCE VALUE= .4258E-01 CRITERION= .1263 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 864
*** TIME = .161733E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7739E-05 OSCILLATION LIMIT = 61.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.52 CRITERION= .1309
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2303
HT FLOW CONVERGENCE VALUE= .4198E-01 CRITERION= .1259 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 865
*** TIME = .162522E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7652E-05 OSCILLATION LIMIT = 60.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.51 CRITERION= .1305
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2321

HT FLOW CONVERGENCE VALUE= .4195E-01 CRITERION= .1255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 866
 *** TIME = .163311E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7746E-05 OSCILLATION LIMIT = 61.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.51 CRITERION= .1302
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2305
 HT FLOW CONVERGENCE VALUE= .4162E-01 CRITERION= .1251 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 867
 *** TIME = .164100E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7661E-05 OSCILLATION LIMIT = 60.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.50 CRITERION= .1298
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2323
 HT FLOW CONVERGENCE VALUE= .4139E-01 CRITERION= .1247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 868
 *** TIME = .164888E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7752E-05 OSCILLATION LIMIT = 61.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.50 CRITERION= .1294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2307
 HT FLOW CONVERGENCE VALUE= .4106E-01 CRITERION= .1243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 869
 *** TIME = .165677E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7671E-05 OSCILLATION LIMIT = 60.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.49 CRITERION= .1290
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2325
 HT FLOW CONVERGENCE VALUE= .4103E-01 CRITERION= .1239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 870
 *** TIME = .166466E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7760E-05 OSCILLATION LIMIT = 61.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.49 CRITERION= .1286
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2310
 HT FLOW CONVERGENCE VALUE= .4071E-01 CRITERION= .1235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 871
 *** TIME = .167255E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7681E-05 OSCILLATION LIMIT = 60.59
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.48 CRITERION= .1282
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2328
 HT FLOW CONVERGENCE VALUE= .4071E-01 CRITERION= .1231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 872
 *** TIME = .168044E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7767E-05 OSCILLATION LIMIT = 61.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.48 CRITERION= .1278
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2313
 HT FLOW CONVERGENCE VALUE= .4042E-01 CRITERION= .1227 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 873
 *** TIME = .168833E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7690E-05 OSCILLATION LIMIT = 60.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 34.47    CRITERION= .1274
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2330
HT FLOW CONVERGENCE VALUE= .4044E-01 CRITERION= .1223    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 874
*** TIME = .169622E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7774E-05    OSCILLATION LIMIT = 61.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.47    CRITERION= .1271
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2315
HT FLOW CONVERGENCE VALUE= .4018E-01 CRITERION= .1219    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 875
*** TIME = .170411E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7700E-05    OSCILLATION LIMIT = 60.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.46    CRITERION= .1267
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2332
HT FLOW CONVERGENCE VALUE= .4020E-01 CRITERION= .1215    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 876
*** TIME = .171200E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7781E-05    OSCILLATION LIMIT = 61.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.46    CRITERION= .1263
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2317
HT FLOW CONVERGENCE VALUE= .3995E-01 CRITERION= .1211    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 877
*** TIME = .171989E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7709E-05    OSCILLATION LIMIT = 60.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.45    CRITERION= .1259
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2334
HT FLOW CONVERGENCE VALUE= .3997E-01 CRITERION= .1207    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 878
*** TIME = .172778E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7788E-05    OSCILLATION LIMIT = 61.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.45    CRITERION= .1255
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2320
HT FLOW CONVERGENCE VALUE= .3973E-01 CRITERION= .1203    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 879
*** TIME = .173567E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7719E-05    OSCILLATION LIMIT = 60.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.44    CRITERION= .1251
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2335
HT FLOW CONVERGENCE VALUE= .3974E-01 CRITERION= .1199    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 880
*** TIME = .174356E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7795E-05    OSCILLATION LIMIT = 61.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.44    CRITERION= .1247
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2322
HT FLOW CONVERGENCE VALUE= .3951E-01 CRITERION= .1195    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 881
*** TIME = .175145E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7728E-05    OSCILLATION LIMIT = 60.97

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.42 CRITERION= .1243
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2337
HT FLOW CONVERGENCE VALUE= .3951E-01 CRITERION= .1191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 882

*** TIME = .175934E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7802E-05 OSCILLATION LIMIT = 61.55

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.42 CRITERION= .1240
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2324
HT FLOW CONVERGENCE VALUE= .3928E-01 CRITERION= .1187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 883

*** TIME = .176723E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7737E-05 OSCILLATION LIMIT = 61.04

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.41 CRITERION= .1236
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2339
HT FLOW CONVERGENCE VALUE= .3928E-01 CRITERION= .1183 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 884

*** TIME = .177512E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7809E-05 OSCILLATION LIMIT = 61.61

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.41 CRITERION= .1232
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2327
HT FLOW CONVERGENCE VALUE= .3905E-01 CRITERION= .1179 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 885

*** TIME = .178300E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7746E-05 OSCILLATION LIMIT = 61.11

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.40 CRITERION= .1228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2342
HT FLOW CONVERGENCE VALUE= .3905E-01 CRITERION= .1175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 886

*** TIME = .179089E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7816E-05 OSCILLATION LIMIT = 61.66

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.40 CRITERION= .1224
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2330
HT FLOW CONVERGENCE VALUE= .3882E-01 CRITERION= .1171 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 887

*** TIME = .179878E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7755E-05 OSCILLATION LIMIT = 61.18

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.39 CRITERION= .1220
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2344
HT FLOW CONVERGENCE VALUE= .3882E-01 CRITERION= .1167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 888

*** TIME = .180667E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7823E-05 OSCILLATION LIMIT = 61.72

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.39 CRITERION= .1216
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2332
HT FLOW CONVERGENCE VALUE= .3860E-01 CRITERION= .1163 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 889

*** TIME = .181456E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7764E-05 OSCILLATION LIMIT = 61.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.38 CRITERION= .1212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2346
 HT FLOW CONVERGENCE VALUE= .3859E-01 CRITERION= .1159 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 890
 *** TIME = .182245E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7830E-05 OSCILLATION LIMIT = 61.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.38 CRITERION= .1209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2334
 HT FLOW CONVERGENCE VALUE= .3837E-01 CRITERION= .1155 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 891
 *** TIME = .183034E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7773E-05 OSCILLATION LIMIT = 61.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.37 CRITERION= .1205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2348
 HT FLOW CONVERGENCE VALUE= .3836E-01 CRITERION= .1151 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 892
 *** TIME = .183823E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7837E-05 OSCILLATION LIMIT = 61.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.37 CRITERION= .1201
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2337
 HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .1147 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 893
 *** TIME = .184612E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7781E-05 OSCILLATION LIMIT = 61.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.36 CRITERION= .1197
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2350
 HT FLOW CONVERGENCE VALUE= .3812E-01 CRITERION= .1143 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 894
 *** TIME = .185401E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7843E-05 OSCILLATION LIMIT = 61.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.36 CRITERION= .1193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2339
 HT FLOW CONVERGENCE VALUE= .3791E-01 CRITERION= .1139 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 895
 *** TIME = .186190E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7790E-05 OSCILLATION LIMIT = 61.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.35 CRITERION= .1189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2352
 HT FLOW CONVERGENCE VALUE= .3789E-01 CRITERION= .1135 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 896
 *** TIME = .186979E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7850E-05 OSCILLATION LIMIT = 61.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.35 CRITERION= .1186
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2342
 HT FLOW CONVERGENCE VALUE= .3769E-01 CRITERION= .1131 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 897
*** TIME = .187768E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7799E-05 OSCILLATION LIMIT = 61.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.34 CRITERION= .1182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2354
HT FLOW CONVERGENCE VALUE= .3766E-01 CRITERION= .1127 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 898
*** TIME = .188557E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7857E-05 OSCILLATION LIMIT = 61.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 34.34 CRITERION= .1178
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2344
HT FLOW CONVERGENCE VALUE= .3746E-01 CRITERION= .1123 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 899
*** TIME = .189346E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7807E-05 OSCILLATION LIMIT = 61.59
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:30:55 JUN 13, 1995 CP= 57906.130
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 28.93 CRITERION= .1159
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1914
HT FLOW CONVERGENCE VALUE= .3091E-01 CRITERION= .1120 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 900
*** TIME = .190135E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7374E-05 OSCILLATION LIMIT = 58.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.93 CRITERION= .1156
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1920
HT FLOW CONVERGENCE VALUE= .3082E-01 CRITERION= .1116 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 901
*** TIME = .190923E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7414E-05 OSCILLATION LIMIT = 58.49
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.92 CRITERION= .1153
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1939
HT FLOW CONVERGENCE VALUE= .3089E-01 CRITERION= .1113 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 902
*** TIME = .191712E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7525E-05 OSCILLATION LIMIT = 59.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.92 CRITERION= .1150
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1922
HT FLOW CONVERGENCE VALUE= .3067E-01 CRITERION= .1110 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 903
*** TIME = .192501E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7418E-05 OSCILLATION LIMIT = 58.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.91 CRITERION= .1147
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1940
 HT FLOW CONVERGENCE VALUE= .3074E-01 CRITERION= .1107 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 904
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7529E-05 OSCILLATION LIMIT = 59.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.91 CRITERION= .1144
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1924
 HT FLOW CONVERGENCE VALUE= .3052E-01 CRITERION= .1103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 905
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7426E-05 OSCILLATION LIMIT = 58.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.90 CRITERION= .1140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1941
 HT FLOW CONVERGENCE VALUE= .3058E-01 CRITERION= .1100 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 906
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7534E-05 OSCILLATION LIMIT = 59.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.90 CRITERION= .1137
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1925
 HT FLOW CONVERGENCE VALUE= .3037E-01 CRITERION= .1097 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 907
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7433E-05 OSCILLATION LIMIT = 58.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.90 CRITERION= .1134
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1943
 HT FLOW CONVERGENCE VALUE= .3043E-01 CRITERION= .1094 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 908
 *** TIME = .196446E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7538E-05 OSCILLATION LIMIT = 59.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.90 CRITERION= .1131
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1927
 HT FLOW CONVERGENCE VALUE= .3022E-01 CRITERION= .1090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 909
 *** TIME = .197235E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7441E-05 OSCILLATION LIMIT = 58.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.89 CRITERION= .1128
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1944
 HT FLOW CONVERGENCE VALUE= .3027E-01 CRITERION= .1087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 910
 *** TIME = .198024E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7543E-05 OSCILLATION LIMIT = 59.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.89 CRITERION= .1125
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1929
 HT FLOW CONVERGENCE VALUE= .3007E-01 CRITERION= .1084 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 911
 *** TIME = .198813E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7448E-05 OSCILLATION LIMIT = 58.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.88 CRITERION= .1121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1945
 HT FLOW CONVERGENCE VALUE= .3012E-01 CRITERION= .1081 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 912
 *** TIME = .199602E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7547E-05 OSCILLATION LIMIT = 59.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.88 CRITERION= .1118
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1931
 HT FLOW CONVERGENCE VALUE= .2991E-01 CRITERION= .1077 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 913
 *** TIME = .200391E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7456E-05 OSCILLATION LIMIT = 58.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.87 CRITERION= .1115
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1947
 HT FLOW CONVERGENCE VALUE= .2996E-01 CRITERION= .1074 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 914
 *** TIME = .201180E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7552E-05 OSCILLATION LIMIT = 59.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.88 CRITERION= .1112
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1932
 HT FLOW CONVERGENCE VALUE= .2976E-01 CRITERION= .1071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 915
 *** TIME = .201969E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7463E-05 OSCILLATION LIMIT = 58.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.87 CRITERION= .1109
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1948
 HT FLOW CONVERGENCE VALUE= .2981E-01 CRITERION= .1068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 916
 *** TIME = .202758E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7556E-05 OSCILLATION LIMIT = 59.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.87 CRITERION= .1106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1934
 HT FLOW CONVERGENCE VALUE= .2961E-01 CRITERION= .1064 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 917
 *** TIME = .203547E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7471E-05 OSCILLATION LIMIT = 58.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.86 CRITERION= .1103
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1949
 HT FLOW CONVERGENCE VALUE= .2965E-01 CRITERION= .1061 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 918
 *** TIME = .204335E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7561E-05 OSCILLATION LIMIT = 59.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.86 CRITERION= .1100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1935
 HT FLOW CONVERGENCE VALUE= .2946E-01 CRITERION= .1058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 919
 *** TIME = .205124E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .7478E-05  OSCILLATION LIMIT = 59.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.85  CRITERION= .1096
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1950
HT FLOW CONVERGENCE VALUE= .2949E-01 CRITERION= .1055  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 920
*** TIME = .205913E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7566E-05  OSCILLATION LIMIT = 59.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.85  CRITERION= .1093
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1937
HT FLOW CONVERGENCE VALUE= .2931E-01 CRITERION= .1051  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 921
*** TIME = .206702E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7485E-05  OSCILLATION LIMIT = 59.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.84  CRITERION= .1090
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1951
HT FLOW CONVERGENCE VALUE= .2934E-01 CRITERION= .1048  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 922
*** TIME = .207491E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7571E-05  OSCILLATION LIMIT = 59.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.85  CRITERION= .1087
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1938
HT FLOW CONVERGENCE VALUE= .2916E-01 CRITERION= .1045  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 923
*** TIME = .208280E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7493E-05  OSCILLATION LIMIT = 59.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.84  CRITERION= .1084
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1952
HT FLOW CONVERGENCE VALUE= .2918E-01 CRITERION= .1042  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 924
*** TIME = .209069E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7575E-05  OSCILLATION LIMIT = 59.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.84  CRITERION= .1081
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1940
HT FLOW CONVERGENCE VALUE= .2900E-01 CRITERION= .1038  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 925
*** TIME = .209858E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7500E-05  OSCILLATION LIMIT = 59.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.83  CRITERION= .1077
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1953
HT FLOW CONVERGENCE VALUE= .2902E-01 CRITERION= .1035  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 926
*** TIME = .210647E+10  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7580E-05  OSCILLATION LIMIT = 59.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.83  CRITERION= .1074
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1941
HT FLOW CONVERGENCE VALUE= .2885E-01 CRITERION= .1032  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 927
*** TIME = .211436E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7507E-05 OSCILLATION LIMIT = 59.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1071
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1954
HT FLOW CONVERGENCE VALUE= .2887E-01 CRITERION= .1029 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 928
*** TIME = .212225E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7585E-05 OSCILLATION LIMIT = 59.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1068
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1943
HT FLOW CONVERGENCE VALUE= .2870E-01 CRITERION= .1025 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 929
*** TIME = .213014E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7514E-05 OSCILLATION LIMIT = 59.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1065
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1955
HT FLOW CONVERGENCE VALUE= .2871E-01 CRITERION= .1022 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 930
*** TIME = .213803E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7590E-05 OSCILLATION LIMIT = 59.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.82 CRITERION= .1062
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1944
HT FLOW CONVERGENCE VALUE= .2854E-01 CRITERION= .1019 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 931
*** TIME = .214592E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7522E-05 OSCILLATION LIMIT = 59.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.81 CRITERION= .1059
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1956
HT FLOW CONVERGENCE VALUE= .2855E-01 CRITERION= .1016 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 932
*** TIME = .215381E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7595E-05 OSCILLATION LIMIT = 59.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.81 CRITERION= .1055
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1946
HT FLOW CONVERGENCE VALUE= .2839E-01 CRITERION= .1012 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 933
*** TIME = .216170E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7529E-05 OSCILLATION LIMIT = 59.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.80 CRITERION= .1052
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1958
HT FLOW CONVERGENCE VALUE= .2839E-01 CRITERION= .1009 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 934
*** TIME = .216959E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7600E-05 OSCILLATION LIMIT = 59.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.80 CRITERION= .1049
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1947

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HT FLOW CONVERGENCE VALUE= .2823E-01 CRITERION= .1006 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 935
 *** TIME = .217747E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7536E-05 OSCILLATION LIMIT = 59.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1046
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1959
 HT FLOW CONVERGENCE VALUE= .2823E-01 CRITERION= .1003 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 936
 *** TIME = .218536E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7605E-05 OSCILLATION LIMIT = 60.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1043
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1948
 HT FLOW CONVERGENCE VALUE= .2808E-01 CRITERION= .9991E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 937
 *** TIME = .219325E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7543E-05 OSCILLATION LIMIT = 59.51
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1040
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1960
 HT FLOW CONVERGENCE VALUE= .2808E-01 CRITERION= .9960E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 938
 *** TIME = .220114E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7610E-05 OSCILLATION LIMIT = 60.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.79 CRITERION= .1037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1950
 HT FLOW CONVERGENCE VALUE= .2792E-01 CRITERION= .9926E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 939
 *** TIME = .220903E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7550E-05 OSCILLATION LIMIT = 59.57

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:20:50 JUN 13, 1995 CP= 60483.950
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 28.61 CRITERION= .1033
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1718
 HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .9901E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 940
 *** TIME = .221692E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5920E-05 OSCILLATION LIMIT = 46.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.61 CRITERION= .1031
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1714
 HT FLOW CONVERGENCE VALUE= .2555E-01 CRITERION= .9873E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 941
 *** TIME = .222481E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5886E-05 OSCILLATION LIMIT = 46.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.60 CRITERION= .1028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1728
 HT FLOW CONVERGENCE VALUE= .2559E-01 CRITERION= .9848E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 942
 *** TIME = .223270E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5978E-05 OSCILLATION LIMIT = 47.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.61 CRITERION= .1025
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1715
 HT FLOW CONVERGENCE VALUE= .2544E-01 CRITERION= .9820E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 943
 *** TIME = .224059E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5891E-05 OSCILLATION LIMIT = 46.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.60 CRITERION= .1023
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1728
 HT FLOW CONVERGENCE VALUE= .2547E-01 CRITERION= .9795E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 944
 *** TIME = .224848E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5982E-05 OSCILLATION LIMIT = 47.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.60 CRITERION= .1020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1716
 HT FLOW CONVERGENCE VALUE= .2532E-01 CRITERION= .9768E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 945
 *** TIME = .225637E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5898E-05 OSCILLATION LIMIT = 46.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.59 CRITERION= .1018
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1729
 HT FLOW CONVERGENCE VALUE= .2536E-01 CRITERION= .9742E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 946
 *** TIME = .226426E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5985E-05 OSCILLATION LIMIT = 47.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.59 CRITERION= .1015
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1717
 HT FLOW CONVERGENCE VALUE= .2521E-01 CRITERION= .9715E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 947
 *** TIME = .227215E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5904E-05 OSCILLATION LIMIT = 46.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1013
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1730
 HT FLOW CONVERGENCE VALUE= .2524E-01 CRITERION= .9689E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 948
 *** TIME = .228004E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5989E-05 OSCILLATION LIMIT = 47.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1010
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1718
 HT FLOW CONVERGENCE VALUE= .2509E-01 CRITERION= .9662E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 949
 *** TIME = .228793E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5911E-05 OSCILLATION LIMIT = 46.63


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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1731
HT FLOW CONVERGENCE VALUE= .2512E-01 CRITERION= .9637E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 950
*** TIME = .229582E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5993E-05 OSCILLATION LIMIT = 47.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.58 CRITERION= .1005
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1719
HT FLOW CONVERGENCE VALUE= .2498E-01 CRITERION= .9609E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 951
*** TIME = .230370E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5917E-05 OSCILLATION LIMIT = 46.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.57 CRITERION= .1002
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1731
HT FLOW CONVERGENCE VALUE= .2501E-01 CRITERION= .9584E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 952
*** TIME = .231159E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5997E-05 OSCILLATION LIMIT = 47.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.57 CRITERION= .9999E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1720
HT FLOW CONVERGENCE VALUE= .2487E-01 CRITERION= .9556E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 953
*** TIME = .231948E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5923E-05 OSCILLATION LIMIT = 46.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.56 CRITERION= .9973E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1732
HT FLOW CONVERGENCE VALUE= .2488E-01 CRITERION= .9531E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 954
*** TIME = .232737E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6001E-05 OSCILLATION LIMIT = 47.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.56 CRITERION= .9948E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1721
HT FLOW CONVERGENCE VALUE= .2475E-01 CRITERION= .9503E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 955
*** TIME = .233526E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5929E-05 OSCILLATION LIMIT = 46.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.55 CRITERION= .9922E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1733
HT FLOW CONVERGENCE VALUE= .2477E-01 CRITERION= .9478E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 956
*** TIME = .234315E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6005E-05 OSCILLATION LIMIT = 47.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.56 CRITERION= .9898E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1722
HT FLOW CONVERGENCE VALUE= .2464E-01 CRITERION= .9450E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 957

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*** TIME = .235104E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5936E-05    OSCILLATION LIMIT = 46.83
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.55    CRITERION= .9871E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1734
    HT FLOW CONVERGENCE VALUE= .2465E-01    CRITERION= .9425E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 958
*** TIME = .235893E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6009E-05    OSCILLATION LIMIT = 47.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.55    CRITERION= .9847E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1724
    HT FLOW CONVERGENCE VALUE= .2452E-01    CRITERION= .9397E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 959
*** TIME = .236682E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5942E-05    OSCILLATION LIMIT = 46.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.54    CRITERION= .9820E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1735
    HT FLOW CONVERGENCE VALUE= .2453E-01    CRITERION= .9372E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 960
*** TIME = .237471E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6013E-05    OSCILLATION LIMIT = 47.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.54    CRITERION= .9796E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1725
    HT FLOW CONVERGENCE VALUE= .2440E-01    CRITERION= .9344E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 961
*** TIME = .238260E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5948E-05    OSCILLATION LIMIT = 46.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.53    CRITERION= .9769E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1735
    HT FLOW CONVERGENCE VALUE= .2441E-01    CRITERION= .9319E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 962
*** TIME = .239049E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6017E-05    OSCILLATION LIMIT = 47.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.53    CRITERION= .9745E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1726
    HT FLOW CONVERGENCE VALUE= .2429E-01    CRITERION= .9291E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 963
*** TIME = .239838E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5954E-05    OSCILLATION LIMIT = 46.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.52    CRITERION= .9718E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1736
    HT FLOW CONVERGENCE VALUE= .2429E-01    CRITERION= .9266E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 964
*** TIME = .240627E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6021E-05    OSCILLATION LIMIT = 47.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 28.53    CRITERION= .9694E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1727
    HT FLOW CONVERGENCE VALUE= .2417E-01    CRITERION= .9238E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 965
*** TIME = .241416E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5960E-05 OSCILLATION LIMIT = 47.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.52 CRITERION= .9667E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
HT FLOW CONVERGENCE VALUE= .2418E-01 CRITERION= .9213E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 966
*** TIME = .242205E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6025E-05 OSCILLATION LIMIT = 47.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.52 CRITERION= .9643E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1728
HT FLOW CONVERGENCE VALUE= .2406E-01 CRITERION= .9185E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 967
*** TIME = .242994E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5967E-05 OSCILLATION LIMIT = 47.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .9617E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1738
HT FLOW CONVERGENCE VALUE= .2405E-01 CRITERION= .9160E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 968
*** TIME = .243782E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6029E-05 OSCILLATION LIMIT = 47.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.51 CRITERION= .9592E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1729
HT FLOW CONVERGENCE VALUE= .2394E-01 CRITERION= .9132E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 969
*** TIME = .244571E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5973E-05 OSCILLATION LIMIT = 47.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.50 CRITERION= .9566E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739
HT FLOW CONVERGENCE VALUE= .2393E-01 CRITERION= .9107E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 970
*** TIME = .245360E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6034E-05 OSCILLATION LIMIT = 47.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.50 CRITERION= .9542E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1730
HT FLOW CONVERGENCE VALUE= .2382E-01 CRITERION= .9079E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 971
*** TIME = .246149E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5979E-05 OSCILLATION LIMIT = 47.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.50 CRITERION= .9515E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1740
HT FLOW CONVERGENCE VALUE= .2382E-01 CRITERION= .9054E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 972
*** TIME = .246938E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6038E-05 OSCILLATION LIMIT = 47.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.50 CRITERION= .9491E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1731
HT FLOW CONVERGENCE VALUE= .2370E-01 CRITERION= .9026E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 973
*** TIME = .247727E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5985E-05 OSCILLATION LIMIT = 47.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.49 CRITERION= .9464E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1740
HT FLOW CONVERGENCE VALUE= .2369E-01 CRITERION= .9001E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 974
*** TIME = .248516E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6042E-05 OSCILLATION LIMIT = 47.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.49 CRITERION= .9440E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1733
HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .8973E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 975
*** TIME = .249305E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5991E-05 OSCILLATION LIMIT = 47.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.48 CRITERION= .9413E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1741
HT FLOW CONVERGENCE VALUE= .2357E-01 CRITERION= .8948E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 976
*** TIME = .250094E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6047E-05 OSCILLATION LIMIT = 47.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.48 CRITERION= .9389E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1734
HT FLOW CONVERGENCE VALUE= .2346E-01 CRITERION= .8920E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 977
*** TIME = .250883E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5997E-05 OSCILLATION LIMIT = 47.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.47 CRITERION= .9363E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1742
HT FLOW CONVERGENCE VALUE= .2345E-01 CRITERION= .8895E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 978
*** TIME = .251672E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6051E-05 OSCILLATION LIMIT = 47.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 28.48 CRITERION= .9339E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1735
HT FLOW CONVERGENCE VALUE= .2336E-01 CRITERION= .8867E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 979
*** TIME = .252461E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6003E-05 OSCILLATION LIMIT = 47.36

***** ANSYS SOLVE COMM:ND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 20:04:25 JUN 13, 1995 CP= 63055.200
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 21.56 CRITERION= .9125E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1337
 HT FLOW CONVERGENCE VALUE= .1788E-01 CRITERION= .8848E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 980
 *** TIME = .253250E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6233E-05 OSCILLATION LIMIT = 49.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.56 CRITERION= .9106E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1341
 HT FLOW CONVERGENCE VALUE= .1784E-01 CRITERION= .8826E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 981
 *** TIME = .254039E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6279E-05 OSCILLATION LIMIT = 49.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.55 CRITERION= .9084E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1356
 HT FLOW CONVERGENCE VALUE= .1790E-01 CRITERION= .8806E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 982
 *** TIME = .254828E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6406E-05 OSCILLATION LIMIT = 50.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.56 CRITERION= .9065E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1342
 HT FLOW CONVERGENCE VALUE= .1777E-01 CRITERION= .8784E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 983
 *** TIME = .255617E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6281E-05 OSCILLATION LIMIT = 49.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.55 CRITERION= .9044E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1356
 HT FLOW CONVERGENCE VALUE= .1784E-01 CRITERION= .8764E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 984
 *** TIME = .256406E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6409E-05 OSCILLATION LIMIT = 50.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.55 CRITERION= .9024E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1343
 HT FLOW CONVERGENCE VALUE= .1770E-01 CRITERION= .8742E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 985
 *** TIME = .257194E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6288E-05 OSCILLATION LIMIT = 49.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.54 CRITERION= .9003E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1357
 HT FLOW CONVERGENCE VALUE= .1776E-01 CRITERION= .8722E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 986
 *** TIME = .257983E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6411E-05 OSCILLATION LIMIT = 50.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.55 CRITERION= .8984E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1343
 HT FLOW CONVERGENCE VALUE= .1763E-01 CRITERION= .8700E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 987
 *** TIME = .258772E+10 TIME INC = .788940E+07

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*** RESPONSE EIGENVALUE = .6293E-05  OSCILLATION LIMIT = 49.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.54  CRITERION= .8962E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1357
HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .8681E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 988
*** TIME = .259561E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6413E-05  OSCILLATION LIMIT = 50.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.54  CRITERION= .8943E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1344
HT FLOW CONVERGENCE VALUE= .1755E-01 CRITERION= .8658E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 989
*** TIME = .260350E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6299E-05  OSCILLATION LIMIT = 49.70
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.54  CRITERION= .8921E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1357
HT FLOW CONVERGENCE VALUE= .1761E-01 CRITERION= .8639E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 990
*** TIME = .261139E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6416E-05  OSCILLATION LIMIT = 50.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.54  CRITERION= .8902E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1345
HT FLOW CONVERGENCE VALUE= .1748E-01 CRITERION= .8617E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 991
*** TIME = .261928E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6305E-05  OSCILLATION LIMIT = 49.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.53  CRITERION= .8881E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1358
HT FLOW CONVERGENCE VALUE= .1753E-01 CRITERION= .8597E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 992
*** TIME = .262717E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6418E-05  OSCILLATION LIMIT = 50.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.54  CRITERION= .8862E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1346
HT FLOW CONVERGENCE VALUE= .1741E-01 CRITERION= .8575E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 993
*** TIME = .263506E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6311E-05  OSCILLATION LIMIT = 49.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.53  CRITERION= .8840E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1358
HT FLOW CONVERGENCE VALUE= .1745E-01 CRITERION= .8555E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 994
*** TIME = .264295E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6420E-05  OSCILLATION LIMIT = 50.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07  UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.53  CRITERION= .8821E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1347
HT FLOW CONVERGENCE VALUE= .1734E-01 CRITERION= .8533E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 995
 *** TIME = .265084E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6317E-05 OSCILLATION LIMIT = 49.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.52 CRITERION= .8800E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1359
 HT FLOW CONVERGENCE VALUE= .1738E-01 CRITERION= .8513E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 996
 *** TIME = .265873E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6423E-05 OSCILLATION LIMIT = 50.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.53 CRITERION= .8780E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1347
 HT FLOW CONVERGENCE VALUE= .1726E-01 CRITERION= .8491E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 997
 *** TIME = .266662E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6323E-05 OSCILLATION LIMIT = 49.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.52 CRITERION= .8759E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1359
 HT FLOW CONVERGENCE VALUE= .1730E-01 CRITERION= .8472E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 998
 *** TIME = .267451E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6425E-05 OSCILLATION LIMIT = 50.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.52 CRITERION= .8740E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1348
 HT FLOW CONVERGENCE VALUE= .1719E-01 CRITERION= .8449E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 999
 *** TIME = .268240E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6328E-05 OSCILLATION LIMIT = 49.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.52 CRITERION= .8718E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1360
 HT FLOW CONVERGENCE VALUE= .1723E-01 CRITERION= .8430E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 1000
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6428E-05 OSCILLATION LIMIT = 50.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.52 CRITERION= .8699E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1349
 HT FLOW CONVERGENCE VALUE= .1712E-01 CRITERION= .8408E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 1001
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6334E-05 OSCILLATION LIMIT = 49.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.51 CRITERION= .8678E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1360
 HT FLOW CONVERGENCE VALUE= .1715E-01 CRITERION= .8388E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 1002
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6431E-05 OSCILLATION LIMIT = 50.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.51 CRITERION= .8659E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1350

HT FLOW CONVERGENCE VALUE= .1704E-01 CRITERION= .8366E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 1003
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6339E-05 OSCILLATION LIMIT = 50.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.51 CRITERION= .8637E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1360
 HT FLOW CONVERGENCE VALUE= .1707E-01 CRITERION= .8346E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 1004
 *** TIME = .272184E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6433E-05 OSCILLATION LIMIT = 50.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.51 CRITERION= .8618E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1350
 HT FLOW CONVERGENCE VALUE= .1697E-01 CRITERION= .8324E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 1005
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6345E-05 OSCILLATION LIMIT = 50.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.50 CRITERION= .8596E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1361
 HT FLOW CONVERGENCE VALUE= .1700E-01 CRITERION= .8304E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 1006
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6436E-05 OSCILLATION LIMIT = 50.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.51 CRITERION= .8577E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1351
 HT FLOW CONVERGENCE VALUE= .1690E-01 CRITERION= .8282E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 1007
 *** TIME = .274551E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6350E-05 OSCILLATION LIMIT = 50.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.50 CRITERION= .8556E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1361
 HT FLOW CONVERGENCE VALUE= .1692E-01 CRITERION= .8262E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 1008
 *** TIME = .275340E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6439E-05 OSCILLATION LIMIT = 50.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.50 CRITERION= .8537E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1352
 HT FLOW CONVERGENCE VALUE= .1682E-01 CRITERION= .8240E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 1009
 *** TIME = .276129E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6356E-05 OSCILLATION LIMIT = 50.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.49 CRITERION= .8515E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1362
 HT FLOW CONVERGENCE VALUE= .1685E-01 CRITERION= .8220E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 1010
 *** TIME = .276918E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6442E-05 OSCILLATION LIMIT = 50.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.50 CRITERION= .8496E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1353
HT FLOW CONVERGENCE VALUE= .1675E-01 CRITERION= .8198E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 1011
*** TIME = .277707E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6361E-05 OSCILLATION LIMIT = 50.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.49 CRITERION= .8475E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1362
HT FLOW CONVERGENCE VALUE= .1677E-01 CRITERION= .8179E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 1012
*** TIME = .278496E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6444E-05 OSCILLATION LIMIT = 50.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.49 CRITERION= .8456E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1353
HT FLOW CONVERGENCE VALUE= .1668E-01 CRITERION= .8156E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 1013
*** TIME = .279285E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6367E-05 OSCILLATION LIMIT = 50.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.49 CRITERION= .8434E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1363
HT FLOW CONVERGENCE VALUE= .1669E-01 CRITERION= .8137E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 1014
*** TIME = .280074E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6447E-05 OSCILLATION LIMIT = 50.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.49 CRITERION= .8415E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1354
HT FLOW CONVERGENCE VALUE= .1660E-01 CRITERION= .8115E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 1015
*** TIME = .280863E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6372E-05 OSCILLATION LIMIT = 50.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.48 CRITERION= .8393E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1363
HT FLOW CONVERGENCE VALUE= .1662E-01 CRITERION= .8095E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 1016
*** TIME = .281652E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6450E-05 OSCILLATION LIMIT = 50.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.49 CRITERION= .8374E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1355
HT FLOW CONVERGENCE VALUE= .1653E-01 CRITERION= .8073E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 1017
*** TIME = .282441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6378E-05 OSCILLATION LIMIT = 50.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.48 CRITERION= .8353E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1364
HT FLOW CONVERGENCE VALUE= .1654E-01 CRITERION= .8053E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 1018
*** TIME = .283229E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6453E-05 OSCILLATION LIMIT = 50.91

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
 HT FLOW CONVERGENCE VALUE= 21.48 CRITERION= .8334E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1356
 HT FLOW CONVERGENCE VALUE= .1645E-01 CRITERION= .8031E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 1019
 *** TIME = .284018E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6383E-05 OSCILLATION LIMIT = 50.36
 Apply loads and solve for 100 to 1000 years

*DO LOOP ON PARAMETER= TM FROM .31558E+10 TO .31558E+11 BY .31558E+10
 TIME= .31558E+10

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1
 13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.
 2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 1285.61410 .000000J00E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1
 94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1
 5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 98.414 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 98.761 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 99.587 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 65630.070 TIME= 20:48:10
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:48:10 JUN 13, 1995 CP= 65630.070
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 31

TIME AT END OF THE LOAD STEP.31558E+10
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 18.22 CRITERION= .8234E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1173
 HT FLOW CONVERGENCE VALUE= .1411E-01 CRITERION= .8014E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 1020
 *** TIME = .284807E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6640E-05 OSCILLATION LIMIT = 52.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.22 CRITERION= .8218E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1170
 HT FLOW CONVERGENCE VALUE= .1405E-01 CRITERION= .7994E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 1021
 *** TIME = .285596E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6613E-05 OSCILLATION LIMIT = 52.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.22 CRITERION= .8199E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1182
 HT FLOW CONVERGENCE VALUE= .1410E-01 CRITERION= .7977E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 1022
 *** TIME = .286385E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6729E-05 OSCILLATION LIMIT = 53.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.22 CRITERION= .8182E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1171
 HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .7958E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 1023
 *** TIME = .287174E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6616E-05 OSCILLATION LIMIT = 52.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .8163E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1182
 HT FLOW CONVERGENCE VALUE= .1404E-01 CRITERION= .7941E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 1024
 *** TIME = .287963E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6731E-05 OSCILLATION LIMIT = 53.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.22 CRITERION= .8146E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1171
 HT FLOW CONVERGENCE VALUE= .1394E-01 CRITERION= .7921E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 1025
*** TIME = .288752E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6622E-05 OSCILLATION LIMIT = 52.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .8127E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1182
HT FLOW CONVERGENCE VALUE= .1398E-01 CRITERION= .7904E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 1026
*** TIME = .289541E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6733E-05 OSCILLATION LIMIT = 53.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.22 CRITERION= .8110E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1172
HT FLOW CONVERGENCE VALUE= .1389E-01 CRITERION= .7884E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 1027
*** TIME = .290330E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6627E-05 OSCILLATION LIMIT = 52.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .8091E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1183
HT FLOW CONVERGENCE VALUE= .1392E-01 CRITERION= .7867E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 1028
*** TIME = .291119E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6735E-05 OSCILLATION LIMIT = 53.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .8075E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1173
HT FLOW CONVERGENCE VALUE= .1384E-01 CRITERION= .7848E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 1029
*** TIME = .291908E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6632E-05 OSCILLATION LIMIT = 52.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .8055E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1183
HT FLOW CONVERGENCE VALUE= .1390E-01 CRITERION= .7831E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 1030
*** TIME = .292697E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6737E-05 OSCILLATION LIMIT = 53.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .8039E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1173
HT FLOW CONVERGENCE VALUE= .1387E-01 CRITERION= .7811E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 1031
*** TIME = .293486E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6638E-05 OSCILLATION LIMIT = 52.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .8020E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1183
HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .7794E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 1032
*** TIME = .294275E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6739E-05 OSCILLATION LIMIT = 53.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .8003E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1174
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HT FLOW CONVERGENCE VALUE= .1410E-01 CRITERION= .7774E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 1033
*** TIME = .295064E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6644E-05 OSCILLATION LIMIT = 52.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7984E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1184
HT FLOW CONVERGENCE VALUE= .1416E-01 CRITERION= .7757E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 1034
*** TIME = .295853E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6742E-05 OSCILLATION LIMIT = 53.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.21 CRITERION= .7967E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1175
HT FLOW CONVERGENCE VALUE= .1408E-01 CRITERION= .7738E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 1035
*** TIME = .296641E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6650E-05 OSCILLATION LIMIT = 52.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7948E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1184
HT FLOW CONVERGENCE VALUE= .1411E-01 CRITERION= .7721E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 1036
*** TIME = .297430E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6745E-05 OSCILLATION LIMIT = 53.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7932E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1175
HT FLOW CONVERGENCE VALUE= .1408E-01 CRITERION= .7701E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 1037
*** TIME = .298219E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6655E-05 OSCILLATION LIMIT = 52.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7913E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1184
HT FLOW CONVERGENCE VALUE= .1421E-01 CRITERION= .7684E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 1038
*** TIME = .299008E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6747E-05 OSCILLATION LIMIT = 53.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7896E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1176
HT FLOW CONVERGENCE VALUE= .1427E-01 CRITERION= .7665E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 1039
*** TIME = .299797E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6661E-05 OSCILLATION LIMIT = 52.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7877E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1185
HT FLOW CONVERGENCE VALUE= .1432E-01 CRITERION= .7648E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 1040
*** TIME = .300586E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6750E-05 OSCILLATION LIMIT = 53.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7860E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1177
 HT FLOW CONVERGENCE VALUE= .1437E-01 CRITERION= .7628E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 1041
 *** TIME = .301375E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6667E-05 OSCILLATION LIMIT = 52.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7841E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1185
 HT FLOW CONVERGENCE VALUE= .1445E-01 CRITERION= .7611E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 1042
 *** TIME = .302164E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6753E-05 OSCILLATION LIMIT = 53.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7825E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1177
 HT FLOW CONVERGENCE VALUE= .1444E-01 CRITERION= .7591E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 1043
 *** TIME = .302953E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6673E-05 OSCILLATION LIMIT = 52.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7806E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1186
 HT FLOW CONVERGENCE VALUE= .1449E-01 CRITERION= .7574E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 1044
 *** TIME = .303742E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6757E-05 OSCILLATION LIMIT = 53.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7789E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1178
 HT FLOW CONVERGENCE VALUE= .1437E-01 CRITERION= .7555E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 1045
 *** TIME = .304531E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6679E-05 OSCILLATION LIMIT = 52.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .7770E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1186
 HT FLOW CONVERGENCE VALUE= .1436E-01 CRITERION= .7538E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 1046
 *** TIME = .305320E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6759E-05 OSCILLATION LIMIT = 53.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7753E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1178
 HT FLOW CONVERGENCE VALUE= .1429E-01 CRITERION= .7518E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 1047
 *** TIME = .306109E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6685E-05 OSCILLATION LIMIT = 52.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .7734E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1186
 HT FLOW CONVERGENCE VALUE= .1426E-01 CRITERION= .7501E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 1048
 *** TIME = .306898E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6762E-05 OSCILLATION LIMIT = 53.35

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7718E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1179
 HT FLOW CONVERGENCE VALUE= .1424E-01 CRITERION= .7481E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 1049
 *** TIME = .307687E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6691E-05 OSCILLATION LIMIT = 52.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .7699E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1187
 HT FLOW CONVERGENCE VALUE= .1422E-01 CRITERION= .7464E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 1050
 *** TIME = .308476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6766E-05 OSCILLATION LIMIT = 53.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7682E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1180
 HT FLOW CONVERGENCE VALUE= .1417E-01 CRITERION= .7445E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 1051
 *** TIME = .309264E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6696E-05 OSCILLATION LIMIT = 52.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .7663E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1187
 HT FLOW CONVERGENCE VALUE= .1420E-01 CRITERION= .7428E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 1052
 *** TIME = .310053E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6769E-05 OSCILLATION LIMIT = 53.40
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7647E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1180
 HT FLOW CONVERGENCE VALUE= .1414E-01 CRITERION= .7408E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 1053
 *** TIME = .310842E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6702E-05 OSCILLATION LIMIT = 52.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .7627E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1188
 HT FLOW CONVERGENCE VALUE= .1416E-01 CRITERION= .7391E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 1054
 *** TIME = .311631E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6772E-05 OSCILLATION LIMIT = 53.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7611E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1181
 HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .7371E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 1055
 *** TIME = .312420E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6708E-05 OSCILLATION LIMIT = 52.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .7592E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1188
 HT FLOW CONVERGENCE VALUE= .1408E-01 CRITERION= .7354E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 1056

*** TIME = .313209E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6775E-05 OSCILLATION LIMIT = 53.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7575E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1182
 HT FLOW CONVERGENCE VALUE= .1402E-01 CRITERION= .7335E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 1057
 *** TIME = .313998E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6713E-05 OSCILLATION LIMIT = 52.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.19 CRITERION= .7556E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1188
 HT FLOW CONVERGENCE VALUE= .1400E-01 CRITERION= .7318E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 1058
 *** TIME = .314787E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6779E-05 OSCILLATION LIMIT = 53.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 18.20 CRITERION= .7540E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1182
 HT FLOW CONVERGENCE VALUE= .1375E-01 CRITERION= .7298E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 1059
 *** TIME = .315576E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6718E-05 OSCILLATION LIMIT = 53.00

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:31:50 JUN 13, 1995 CP= 68204.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 97.36 CRITERION= .1217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5739
 HT FLOW CONVERGENCE VALUE= .6744E-01 CRITERION= .7221E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 1060
 *** TIME = .323465E+10 TIME INC = .788940E+08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 97.36 CRITERION= .1212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5547
 HT FLOW CONVERGENCE VALUE= .6697E-01 CRITERION= .7142E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 1061
 *** TIME = .331355E+10 TIME INC = .788940E+08
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 292.1 CRITERION= .3007
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.714
 HT FLOW CONVERGENCE VALUE= .1928 CRITERION= .6910E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6629E-01
 HT FLOW CONVERGENCE VALUE= .2927E-02 CRITERION= .6910E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 1063
 *** TIME = .355023E+10 TIME INC = .236682E+09
 *** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 292.1 CRITERION= .3001
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.738

HT FLOW CONVERGENCE VALUE= .1885 CRITERION= .6675E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6499E-01
HT FLOW CONVERGENCE VALUE= .2758E-02 CRITERION= .6675E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 1065
*** TIME = .378691E+10 TIME INC = .236682E+09
*** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 779.0 CRITERION= .7818
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.644
HT FLOW CONVERGENCE VALUE= .4491 CRITERION= .6053E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1577
HT FLOW CONVERGENCE VALUE= .6013E-02 CRITERION= .6051E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 1067
*** TIME = .441806E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 779.1 CRITERION= .7814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.664
HT FLOW CONVERGENCE VALUE= .3933 CRITERION= .5425E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1456
HT FLOW CONVERGENCE VALUE= .4976E-02 CRITERION= .5424E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 1069
*** TIME = .504922E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 779.2 CRITERION= .7811
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.686
HT FLOW CONVERGENCE VALUE= .3193 CRITERION= .4799E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1313
HT FLOW CONVERGENCE VALUE= .3697E-02 CRITERION= .4797E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1071
*** TIME = .568037E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 779.4 CRITERION= .7808
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -4.706
HT FLOW CONVERGENCE VALUE= .2763 CRITERION= .4169E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1150
HT FLOW CONVERGENCE VALUE= .2554E-02 CRITERION= .4167E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1073
*** TIME = .631152E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 21:43:47 JUN 13, 1995 CP= 68910.200
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 326.2 CRITERION= .3288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.695
HT FLOW CONVERGENCE VALUE= .9981E-01 CRITERION= .3974E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4205E-01
HT FLOW CONVERGENCE VALUE= .8702E-03 CRITERION= .3974E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1075
*** TIME = .694267E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 326.2 CRITERION= .3286
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.694
HT FLOW CONVERGENCE VALUE= .9288E-01 CRITERION= .3778E-01

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3914E-01
 HT FLOW CONVERGENCE VALUE= .7564E-03 CRITERION= .3778E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1077
 *** TIME = .757382E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 326.2 CRITERION= .3284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.699
 HT FLOW CONVERGENCE VALUE= .8792E-01 CRITERION= .3584E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3589E-01
 HT FLOW CONVERGENCE VALUE= .6615E-03 CRITERION= .3584E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1079
 *** TIME = .820498E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 326.2 CRITERION= .3282
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.699
 HT FLOW CONVERGENCE VALUE= .8320E-01 CRITERION= .3388E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3309E-01
 HT FLOW CONVERGENCE VALUE= .5882E-03 CRITERION= .3388E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1081
 *** TIME = .883613E+10 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 326.3 CRITERION= .3280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.704
 HT FLOW CONVERGENCE VALUE= .7804E-01 CRITERION= .3194E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3104E-01
 HT FLOW CONVERGENCE VALUE= .5150E-03 CRITERION= .3194E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1083
 *** TIME = .946728E+10 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:51:56 JUN 13, 1995 CP= 69390.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 187.4 CRITERION= .1901
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9617
 HT FLOW CONVERGENCE VALUE= .4367E-01 CRITERION= .3084E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1707E-01
 HT FLOW CONVERGENCE VALUE= .2801E-03 CRITERION= .3084E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1085
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.5 CRITERION= .1900
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9645
 HT FLOW CONVERGENCE VALUE= .4230E-01 CRITERION= .2977E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1655E-01
 HT FLOW CONVERGENCE VALUE= .2617E-03 CRITERION= .2977E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1087
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.5 CRITERION= .1898
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9631
 HT FLOW CONVERGENCE VALUE= .4077E-01 CRITERION= .2868E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1599E-01

HT FLOW CONVERGENCE VALUE= .2438E-03 CRITERION= .2868E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1089
 *** TIME = .113607E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.5 CRITERION= .1896
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9660
 HT FLOW CONVERGENCE VALUE= .3929E-01 CRITERION= .2760E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1547E-01
 HT FLOW CONVERGENCE VALUE= .2266E-03 CRITERION= .2760E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1091
 *** TIME = .119919E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.5 CRITERION= .1895
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9646
 HT FLOW CONVERGENCE VALUE= .3775E-01 CRITERION= .2651E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1490E-01
 HT FLOW CONVERGENCE VALUE= .2098E-03 CRITERION= .2651E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1093
 *** TIME = .126230E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:00:05 JUN 13, 1995 CP= 69871.590
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 138.2 CRITERION= .1407
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6775
 HT FLOW CONVERGENCE VALUE= .2658E-01 CRITERION= .2580E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1039E-01
 HT FLOW CONVERGENCE VALUE= .1448E-03 CRITERION= .2580E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1095
 *** TIME = .132542E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 138.2 CRITERION= .1406
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6756
 HT FLOW CONVERGENCE VALUE= .2583E-01 CRITERION= .2508E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1011E-01
 HT FLOW CONVERGENCE VALUE= .1372E-03 CRITERION= .2508E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1097
 *** TIME = .138853E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 138.2 CRITERION= .1404
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6782
 HT FLOW CONVERGENCE VALUE= .2514E-01 CRITERION= .2438E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9868E-02
 HT FLOW CONVERGENCE VALUE= .1299E-03 CRITERION= .2438E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1099
 *** TIME = .145165E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 138.2 CRITERION= .1403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6763
 HT FLOW CONVERGENCE VALUE= .2439E-01 CRITERION= .2365E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9585E-02
 HT FLOW CONVERGENCE VALUE= .1226E-03 CRITERION= .2365E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1101
*** TIME = .151476E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 138.2 CRITERION= .1402
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6789
HT FLOW CONVERGENCE VALUE= .2369E-01 CRITERION= .2295E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9342E-02
HT FLOW CONVERGENCE VALUE= .1157E-03 CRITERION= .2295E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1103
*** TIME = .157788E+11 TIME INC = .631152E+09
```

***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:08:13 JUN 13, 1995 CP= 70352.310
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
```

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

```
HT FLOW CONVERGENCE VALUE= 133.9 CRITERION= .1358
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6028
HT FLOW CONVERGENCE VALUE= .2158E-01 CRITERION= .2237E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1104
*** TIME = .164100E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

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HT FLOW CONVERGENCE VALUE= 133.9 CRITERION= .1357
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5970
HT FLOW CONVERGENCE VALUE= .2100E-01 CRITERION= .2181E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1105
*** TIME = .170411E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 133.9 CRITERION= .1357
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5952
HT FLOW CONVERGENCE VALUE= .2044E-01 CRITERION= .2123E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1106
*** TIME = .176723E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 133.9 CRITERION= .1356
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5980
HT FLOW CONVERGENCE VALUE= .1993E-01 CRITERION= .2067E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1107
*** TIME = .183034E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED
```

```
HT FLOW CONVERGENCE VALUE= 133.9 CRITERION= .1355
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5961
HT FLOW CONVERGENCE VALUE= .1937E-01 CRITERION= .2010E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1108
*** TIME = .189346E+11 TIME INC = .631152E+09
```

***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:13:50 JUN 13, 1995 CP= 70678.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
```

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 113.3 CRITERION= .1151
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4843
HT FLOW CONVERGENCE VALUE= .1580E-01 CRITERION= .1968E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1109
*** TIME = .195657E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.3 CRITERION= .1150
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4836
HT FLOW CONVERGENCE VALUE= .1545E-01 CRITERION= .1923E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1110
*** TIME = .201969E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.3 CRITERION= .1149
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4862
HT FLOW CONVERGENCE VALUE= .1513E-01 CRITERION= .1881E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1111
*** TIME = .208280E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.3 CRITERION= .1149
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4842
HT FLOW CONVERGENCE VALUE= .1478E-01 CRITERION= .1837E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1112
*** TIME = .214592E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 113.3 CRITERION= .1148
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4868
HT FLOW CONVERGENCE VALUE= .1447E-01 CRITERION= .1795E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1113
*** TIME = .220903E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:19:25 JUN 13, 1995 CP= 71005.600
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 99.23 CRITERION= .1008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4207
HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .1757E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1114
*** TIME = .227215E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.23 CRITERION= .1008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4240
HT FLOW CONVERGENCE VALUE= .1214E-01 CRITERION= .1721E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1115
*** TIME = .233526E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.24 CRITERION= .1007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4219

HT FLOW CONVERGENCE VALUE= .1187E-01 CRITERION= .1683E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1116
*** TIME = .239838E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.24 CRITERION= .1007
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4244
HT FLOW CONVERGENCE VALUE= .1163E-01 CRITERION= .1647E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1117
*** TIME = .246149E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 99.24 CRITERION= .1006
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4223
HT FLOW CONVERGENCE VALUE= .1136E-01 CRITERION= .1609E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1118
*** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:24:59 JUN 13, 1995 CP= 71332.480
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 86.41 CRITERION= .8790E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3577
HT FLOW CONVERGENCE VALUE= .9607E-02 CRITERION= .1580E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1119
*** TIME = .258772E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.42 CRITERION= .8785E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3562
HT FLOW CONVERGENCE VALUE= .9418E-02 CRITERION= .1550E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1120
*** TIME = .265084E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.41 CRITERION= .8779E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3586
HT FLOW CONVERGENCE VALUE= .9261E-02 CRITERION= .1521E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1121
*** TIME = .271395E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.42 CRITERION= .8775E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3565
HT FLOW CONVERGENCE VALUE= .9068E-02 CRITERION= .1491E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1122
*** TIME = .277707E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 86.42 CRITERION= .8769E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3590
HT FLOW CONVERGENCE VALUE= .8908E-02 CRITERION= .1462E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1123
*** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:30:33 JUN 13, 1995 CP= 71659.440
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 73.95 CRITERION= .7538E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3008
HT FLOW CONVERGENCE VALUE= .7449E-02 CRITERION= .1437E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1124
*** TIME = .290330E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.95 CRITERION= .7533E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3037
HT FLOW CONVERGENCE VALUE= .7344E-02 CRITERION= .1413E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1125
*** TIME = .296641E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.96 CRITERION= .7529E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3015
HT FLOW CONVERGENCE VALUE= .7203E-02 CRITERION= .1388E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1126
*** TIME = .302953E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.95 CRITERION= .7524E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3039
HT FLOW CONVERGENCE VALUE= .7095E-02 CRITERION= .1365E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1127
*** TIME = .309264E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.96 CRITERION= .7520E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3017
HT FLOW CONVERGENCE VALUE= .6955E-02 CRITERION= .1339E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1128
*** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 71984.950

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21j.db
FOR POSSIBLE RESUME FROM THIS POINT

Create element contour plots of solution results

Sort through solution results for time of max temp.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:36:12 JUN 13, 1995 CP= 71990.920
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= peakclad

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	peakclad	78.31	.3156E+11	230.8	.6312E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 63115231.6

***** ROUTINE COMPLETED ***** CP = 71991.200

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:36:14 JUN 13, 1995 CP= 71991.240
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****

Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET

XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4459 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0

USE DATA SET FOR TIME OR FREQUENCY= .63115E+08

SET COMMAND GOT LOAD STEP= 14 SUBSTEP= 40 CUMULATIVE ITERATION= 379
TIME/FREQUENCY= .63115E+08

TITLE=

21 PWR UCF/WP at Time of Peak Temp. (2.000001 years)

/SHOW SWITCH PLOTS TO FILE solupk.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 AUTOMATIC CONTOURS

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solupk.grph - RASTER MODE.

DISPLAY TITLE=
21 PWR UCF/WP at Time of Peak Temp. (2.000001 years)

*** WARNING *** CP= 72028.470 TIME= 22:36:56
The selected element set contains mixed materials.
This could invalidate error estimation.
Create temperature contour plots at 10, 50, and 100 yrs

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+09

SET COMMAND GOT LOAD STEP= 22 SUBSTEP= 40 CUMULATIVE ITERATION= 699
TIME/FREQUENCY= .31558E+09

TITLE=
21 PWR UCF/WP at 10 years

/SHOW SWITCH PLOTS TO FILE solu10.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 121.37 BY .86167 TO 230.81

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 10 years

*** WARNING *** CP= 72076.870 TIME= 22:37:47
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+10

SET COMMAND GOT LOAD STEP= 26 SUBSTEP= 40 CUMULATIVE ITERATION= 859
TIME/FREQUENCY= .15779E+10

TITLE=
21 PWR UCF/WP at 50 years

/SHOW SWITCH PLOTS TO FILE solu50.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 121.37 BY .86167 TO 230.81

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 50 years

*** WARNING *** CP= 72124.460 TIME= 22:38:35
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+10

SET COMMAND GOT LOAD STEP= 31 SUBSTEP= 40 CUMULATIVE ITERATION= 1059
TIME/FREQUENCY= .31558E+10

TITLE=

21 PWR UCF/WP at 100 years

/SHOW SWITCH PLOTS TO FILE solu100.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 121.37 BY .86167 TO 230.81

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 100 years

*** WARNING *** CP= 72170.770 TIME= 22:39:21
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 72179.490

Print time/temperature output at specific locations
Save profile from center to edge

Variable Legend: A01i000

c = center of assembly
h = halfway between center and tube
s = inside structural stainless tube layer
t = stainless tube cladding
g = tube guide
i = inner barrier of DC
o = outer barrier of DC
= ID number of assembly (01 is center)
i = side of assembly toward center of WP
o = side of assembly toward edge of WP
000 = profile center down
045 = profile 45 deg down
090 = profile center side
135 = profile 45 deg up
180 = profile center up

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:39:30 JUN 13, 1995 CP= 72179.490
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 30

* Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i000
 VARIABLE 3 IS AT NODE 6 ITEM= TEMP COMP= NAME= h01o000
 VARIABLE 4 IS AT NODE 1 ITEM= TEMP COMP= NAME= s01o000
 VARIABLE 5 IS AT NODE 346 ITEM= TEMP COMP= NAME= t01o000
 VARIABLE 6 IS AT NODE 3820 ITEM= TEMP COMP= NAME= ts1o000
 VARIABLE 7 IS AT NODE 858 ITEM= TEMP COMP= NAME= t06i000
 VARIABLE 8 IS AT NODE 695 ITEM= TEMP COMP= NAME= s06i000
 VARIABLE 9 IS AT NODE 706 ITEM= TEMP COMP= NAME= h06i000
 VARIABLE 10 IS AT NODE 702 ITEM= TEMP COMP= NAME= c06i000
 VARIABLE 11 IS AT NODE 699 ITEM= TEMP COMP= NAME= h06o000
 VARIABLE 12 IS AT NODE 694 ITEM= TEMP COMP= NAME= s06o000
 VARIABLE 13 IS AT NODE 814 ITEM= TEMP COMP= NAME= t13i000
 VARIABLE 14 IS AT NODE 1051 ITEM= TEMP COMP= NAME= s13i000
 VARIABLE 15 IS AT NODE 1062 ITEM= TEMP COMP= NAME= h13i000
 VARIABLE 16 IS AT NODE 1058 ITEM= TEMP COMP= NAME= c13i000
 VARIABLE 17 IS AT NODE 1055 ITEM= TEMP COMP= NAME= h13o000
 VARIABLE 18 IS AT NODE 1050 ITEM= TEMP COMP= NAME= s13o000
 VARIABLE 19 IS AT NODE 1170 ITEM= TEMP COMP= NAME= t13o000
 VARIABLE 20 IS AT NODE 4304 ITEM= TEMP COMP= NAME= i13i000
 VARIABLE 21 IS AT NODE 4240 ITEM= TEMP COMP= NAME= i13o000
 VARIABLE 22 IS AT NODE 4487 ITEM= TEMP COMP= NAME= o13o000

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i000	78.31	.3156E+11	230.8	.6312E+08
3 NSOL	6 TEMP	h01o000	78.06	.3156E+11	227.1	.6312E+08
4 NSOL	1 TEMP	s01o000	76.74	.3156E+11	207.8	.9467E+08
5 NSOL	346 TEMP	t01o000	76.74	.3156E+11	207.7	.9467E+08
6 NSOL	3820 TEMP	ts1o000	76.74	.3156E+11	207.7	.9467E+08
7 NSOL	858 TEMP	t06i000	76.74	.3156E+11	207.7	.9467E+08
8 NSOL	695 TEMP	s06i000	76.74	.3156E+11	207.8	.9467E+08
9 NSOL	706 TEMP	h06i000	77.79	.3156E+11	222.6	.6312E+08
10 NSOL	702 TEMP	c06i000	78.22	.3156E+11	228.5	.6312E+08
11 NSOL	699 TEMP	h06o000	78.01	.3156E+11	225.2	.6312E+08
12 NSOL	694 TEMP	s06o000	76.96	.3156E+11	209.9	.9467E+08
13 NSOL	814 TEMP	t13i000	76.96	.3156E+11	209.8	.9467E+08
14 NSOL	1051 TEMP	s13i000	76.96	.3156E+11	209.8	.9467E+08
15 NSOL	1062 TEMP	h13i000	77.40	.3156E+11	214.0	.9467E+08
16 NSOL	1058 TEMP	c13i000	77.33	.3156E+11	210.7	.9467E+08
17 NSOL	1055 TEMP	h13o000	76.81	.3156E+11	201.1	.9467E+08
18 NSOL	1050 TEMP	s13o000	75.19	.3156E+11	172.9	.1578E+09
19 NSOL	1170 TEMP	t13o000	75.19	.3156E+11	172.7	.1578E+09
20 NSOL	4304 TEMP	i13i000	28.07	.1000E-05	134.5	.2525E+09
21 NSOL	4240 TEMP	i13o000	27.38	.1000E-05	133.8	.2525E+09
22 NSOL	4487 TEMP	o13o000	26.14	.1000E-05	132.8	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:33 JUN 13, 1995 CP= 72182.750
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i000	6 TEMP h01o000	1 TEMP s01o000	346 TEMP t01o000	3820 TEMP ts1o000	858 TEMP t06i000
.10000E-05	163.606	158.575	131.456	131.361	131.361	131.368
.20000E-05	196.896	192.392	168.267	168.175	168.175	168.182
31.558	196.896	192.392	168.267	168.176	168.175	168.183
.31558E+07	217.709	213.599	191.355	191.267	191.266	191.273
.63116E+07	221.740	217.694	195.803	195.715	195.715	195.721
.94673E+07	223.886	219.888	198.271	198.183	198.183	198.190
.12623E+08	225.370	221.409	200.003	199.916	199.916	199.922
.15779E+08	226.475	222.545	201.317	201.231	201.230	201.237
.18935E+08	227.324	223.421	202.349	202.263	202.263	202.269
.22090E+08	227.996	224.119	203.188	203.103	203.103	203.109
.25246E+08	228.539	224.684	203.885	203.800	203.800	203.806
.28402E+08	228.977	225.144	204.466	204.381	204.381	204.388
.31558E+08	229.333	225.520	204.957	204.873	204.872	204.879
.63115E+08	230.806	227.146	207.440	207.359	207.359	207.365
.94673E+08	230.407	226.862	207.788	207.710	207.710	207.716
.12623E+09	229.410	225.956	207.385	207.309	207.309	207.315
.15779E+09	228.342	224.960	206.787	206.713	206.713	206.719
.18935E+09	226.489	223.188	205.456	205.384	205.384	205.389
.22090E+09	224.980	221.740	204.348	204.278	204.277	204.283
.25246E+09	223.503	220.322	203.254	203.185	203.185	203.190
.28402E+09	221.502	218.371	201.573	201.505	201.505	201.510
.31558E+09	219.868	216.776	200.193	200.127	200.126	200.132
.63115E+09	202.449	199.757	185.398	185.342	185.342	185.346
.94673E+09	187.219	184.852	172.252	172.205	172.205	172.208
.12623E+10	173.699	171.589	160.376	160.335	160.335	160.338
.15779E+10	162.269	160.385	150.384	150.349	150.348	150.351
.18935E+10	152.961	151.265	142.281	142.250	142.249	142.252
.22090E+10	145.194	143.660	135.553	135.525	135.525	135.527
.25246E+10	138.278	136.881	129.502	129.477	129.477	129.479
.28402E+10	132.864	131.579	124.796	124.774	124.773	124.775
.31558E+10	128.143	126.960	120.715	120.695	120.695	120.696
.63115E+10	105.528	104.805	100.997	100.985	100.985	100.985
.94673E+10	97.2175	96.6494	93.6648	93.6556	93.6555	93.6562
.12623E+11	92.4769	91.9990	89.4893	89.4817	89.4816	89.4822
.15779E+11	89.1391	88.7218	86.5309	86.5242	86.5242	86.5247
.18935E+11	86.1500	85.7818	83.8495	83.8437	83.8437	83.8441
.22090E+11	83.7250	83.3938	81.6564	81.6512	81.6511	81.6515
.25246E+11	81.6117	81.3128	79.7451	79.7404	79.7404	79.7407
.28402E+11	79.8237	79.5508	78.1199	78.1156	78.1156	78.1159
.31558E+11	78.3121	78.0608	76.7434	76.7395	76.7395	76.7397

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:33 JUN 13, 1995 CP= 72182.770
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	695 TEMP s06i000	706 TEMP h06i000	702 TEMP c06i000	699 TEMP h06o000	694 TEMP s06o000	814 TEMP t13i000
.10000E-05	131.454	152.547	160.773	156.431	134.890	134.828
.20000E-05	168.265	186.832	194.014	190.057	170.937	170.877

31.558	168.265	186.832	194.014	190.056	170.937	170.877
.31558E+07	191.353	208.551	215.222	211.580	194.007	193.948
.63116E+07	195.801	212.707	219.255	215.656	198.354	198.296
.94673E+07	198.268	214.952	221.411	217.848	200.759	200.701
.12623E+08	200.000	216.511	222.902	219.368	202.447	202.389
.15779E+08	201.314	217.681	224.016	220.506	203.722	203.665
.18935E+08	202.346	218.587	224.873	221.385	204.724	204.667
.22090E+08	203.186	219.312	225.554	222.086	205.537	205.480
.25246E+08	203.882	219.904	226.105	222.656	206.210	206.153
.28402E+08	204.464	220.388	226.552	223.121	206.770	206.714
.31558E+08	204.955	220.788	226.916	223.503	207.242	207.186
.63115E+08	207.438	222.597	228.470	225.188	209.601	209.547
.94673E+08	207.786	222.456	228.144	224.964	209.877	209.825
.12623E+09	207.383	221.667	227.212	224.114	209.424	209.373
.15779E+09	206.785	220.765	226.196	223.165	208.789	208.739
.18935E+09	205.454	219.100	224.409	221.453	207.426	207.378
.22090E+09	204.346	217.735	222.949	220.051	206.293	206.246
.25246E+09	203.252	216.397	221.521	218.678	205.176	205.129
.28402E+09	201.571	214.512	219.561	216.765	203.477	203.431
.31558E+09	200.191	212.971	217.961	215.203	202.084	202.039
.63115E+09	185.397	196.495	200.878	198.504	187.150	187.113
.94673E+09	172.251	182.024	185.912	183.844	173.881	173.850
.12623E+10	160.375	169.100	172.591	170.761	161.886	161.859
.15779E+10	150.383	158.187	161.325	159.699	151.771	151.748
.18935E+10	142.280	149.301	152.139	150.682	143.555	143.535
.22090E+10	135.553	141.898	144.474	143.161	136.728	136.710
.25246E+10	129.502	135.285	137.639	136.447	130.590	130.573
.28402E+10	124.796	130.118	132.290	131.197	125.810	125.796
.31558E+10	120.715	125.621	127.627	126.622	121.662	121.649
.63115E+10	100.997	104.003	105.246	104.637	101.606	101.598
.94673E+10	93.6647	96.0244	97.0030	96.5265	94.1480	94.1420
.12623E+11	89.4893	91.4752	92.3001	91.8996	89.8978	89.8929
.15779E+11	86.5309	88.2655	88.9867	88.6371	86.8884	86.8841
.18935E+11	83.8495	85.3797	86.0163	85.7079	84.1648	84.1610
.22090E+11	81.6564	83.0327	83.6057	83.3283	81.9400	81.9366
.25246E+11	79.7451	80.9875	81.5050	81.2547	80.0014	79.9984
.28402E+11	78.1199	79.2543	79.7272	79.4988	78.3544	78.3517
.31558E+11	76.7434	77.7883	78.2241	78.0139	76.9599	76.9573

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:33 JUN 13, 1995 CP= 72182.790
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1051 TEMP s13i000	1062 TEMP h13i000	1058 TEMP c13i000	1055 TEMP h13o000	1050 TEMP s13o000	1170 TEMP t13o000
.10000E-05	134.840	142.922	140.702	129.269	92.4339	92.2893
.20000E-05	170.884	177.135	174.143	163.040	128.334	128.183
31.558	170.884	177.135	174.143	163.040	128.335	128.183
.31558E+07	193.954	199.249	195.934	185.171	152.178	152.025
.63116E+07	198.301	203.411	200.026	189.313	156.620	156.466
.94673E+07	200.705	205.688	202.274	191.624	159.207	159.053
.12623E+08	202.394	207.280	203.851	193.258	161.073	160.920
.15779E+08	203.670	208.487	205.049	194.508	162.527	162.374
.18935E+08	204.671	209.427	205.986	195.495	163.701	163.548
.22090E+08	205.484	210.188	206.747	196.304	164.686	164.533
.25246E+08	206.157	210.814	207.374	196.978	165.526	165.374
.28402E+08	206.718	211.333	207.896	197.545	166.252	166.101
.31558E+08	207.190	211.767	208.335	198.027	166.888	166.737
.63115E+08	209.551	213.872	210.505	200.559	170.630	170.484
.94673E+08	209.828	213.991	210.707	201.057	172.098	171.956
.12623E+09	209.377	213.428	210.225	200.825	172.668	172.530
.15779E+09	208.743	212.712	209.578	200.382	172.872	172.737

.18935E+09	207.381	211.270	208.228	199.270	172.504	172.372
.22090E+09	206.249	210.078	207.107	198.333	172.143	172.015
.25246E+09	205.133	208.905	206.002	197.404	171.760	171.635
.28402E+09	203.435	207.170	204.337	195.900	170.744	170.622
.31558E+09	202.042	205.749	202.972	194.663	169.895	169.775
.63115E+09	187.117	190.497	188.285	181.284	160.381	160.283
.94673E+09	173.853	176.981	175.206	169.208	151.238	151.156
.12623E+10	161.862	164.786	163.346	158.124	142.429	142.360
.15779E+10	151.752	154.458	153.271	148.695	134.946	134.887
.18935E+10	143.538	146.029	145.028	140.982	128.807	128.755
.22090E+10	136.713	139.008	138.154	134.545	123.670	123.624
.25246E+10	130.576	132.704	131.967	128.719	118.910	118.869
.28402E+10	125.799	127.783	127.136	124.175	115.223	115.187
.31558E+10	121.651	123.502	122.930	120.225	112.036	112.003
.63115E+10	101.600	102.799	102.522	100.933	96.0926	96.0739
.94673E+10	94.1435	95.1004	94.9016	93.6722	89.9235	89.9092
.12623E+11	89.8941	90.7083	90.5507	89.5247	86.3917	86.3800
.15779E+11	86.8852	87.6018	87.4701	86.5794	83.8561	83.8460
.18935E+11	84.1620	84.7977	84.6854	83.9031	81.5094	81.5006
.22090E+11	81.9375	82.5128	82.4153	81.7149	79.5695	79.5617
.25246E+11	79.9991	80.5211	80.4361	79.8064	77.8760	77.8690
.28402E+11	78.3524	78.8312	78.7559	78.1830	76.4253	76.4189
.31558E+11	76.9580	77.4007	77.3333	76.8073	75.1922	75.1864

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:33 JUN 13, 1995 CP= 72182.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4304 TEMP	4240 TEMP	4487 TEMP
	1131000	1130000	0130000
.10000E-05	28.0717	27.3823	26.1409
.20000E-05	71.1676	70.3791	69.0591
.31.558	71.1677	70.3791	69.0591
.31558E+07	100.561	99.7353	98.4833
.63116E+07	105.953	105.123	103.878
.94673E+07	109.259	108.429	107.192
.12623E+08	111.702	110.874	109.644
.15779E+08	113.654	112.828	111.605
.18935E+08	115.266	114.441	113.224
.22090E+08	116.652	115.829	114.619
.25246E+08	117.861	117.041	115.837
.28402E+08	118.933	118.115	116.917
.31558E+08	119.893	119.078	117.886
.63115E+08	126.055	125.265	124.121
.94673E+08	129.299	128.533	127.430
.12623E+09	131.267	130.524	129.454
.15779E+09	132.569	131.843	130.801
.18935E+09	133.410	132.706	131.696
.22090E+09	133.975	133.288	132.302
.25246E+09	134.465	133.793	132.832
.28402E+09	134.177	133.521	132.580
.31558E+09	133.905	133.261	132.337
.63115E+09	130.068	129.544	128.787
.94673E+09	125.176	124.740	124.108
.12623E+10	119.609	119.241	118.701
.15779E+10	114.898	114.585	114.122
.18935E+10	111.015	110.744	110.341
.22090E+10	107.752	107.515	107.161
.25246E+10	104.528	104.318	104.003
.28402E+10	102.086	101.898	101.614
.31558E+10	100.014	99.8439	99.5873
.63115E+10	88.9741	88.8815	88.7413
.94673E+10	84.3949	84.3254	84.2199

.12623E+11	81.7650	81.7080	81.6215
.15779E+11	79.8307	79.7818	79.7072
.18935E+11	77.9642	77.9217	77.8568
.22090E+11	76.3896	76.3518	76.2940
.25246E+11	75.0125	74.9789	74.9273
.28402E+11	73.8166	73.7863	73.7396
.31558E+11	72.7941	72.7665	72.7240

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i045

*** WARNING *** CP= 72182.960 TIME= 22:39:34
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 84 ITEM= TEMP COMP= NAME= h01o045

VARIABLE 4 IS AT NODE 23 ITEM= TEMP COMP= NAME= s01o045

VARIABLE 5 IS AT NODE 348 ITEM= TEMP COMP= NAME= t01o045

VARIABLE 6 IS AT NODE 3831 ITEM= TEMP COMP= NAME= ts1o045

VARIABLE 7 IS AT NODE 2465 ITEM= TEMP COMP= NAME= t08i045

VARIABLE 8 IS AT NODE 2240 ITEM= TEMP COMP= NAME= s08i045

VARIABLE 9 IS AT NODE 2331 ITEM= TEMP COMP= NAME= h08i045

VARIABLE 10 IS AT NODE 2379 ITEM= TEMP COMP= NAME= c08i045

VARIABLE 11 IS AT NODE 2427 ITEM= TEMP COMP= NAME= h08o045

VARIABLE 12 IS AT NODE 2268 ITEM= TEMP COMP= NAME= s08o045

VARIABLE 13 IS AT NODE 2494 ITEM= TEMP COMP= NAME= g08i045

VARIABLE 14 IS AT NODE 3689 ITEM= TEMP COMP= NAME= g08o045

VARIABLE 15 IS AT NODE 4332 ITEM= TEMP COMP= NAME= i08i045

VARIABLE 16 IS AT NODE 4272 ITEM= TEMP COMP= NAME= i08o045

VARIABLE 17 IS AT NODE 4521 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 11 and 12

VARIABLE 18 IS AT NODE 3390 ITEM= TEMP COMP= NAME= c11i045

VARIABLE 19 IS AT NODE 2716 ITEM= TEMP COMP= NAME= c12i045

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i045	78.31	.3156E+11	230.8	.6312E+08
3 NSOL	84 TEMP	h01o045	77.56	.3156E+11	219.9	.6312E+08
4 NSOL	23 TEMP	s01o045	76.68	.3156E+11	206.5	.9467E+08
5 NSOL	348 TEMP	t01o045	76.64	.3156E+11	205.6	.9467E+08
6 NSOL	3831 TEMP	ts1o045	76.64	.3156E+11	205.6	.9467E+08
7 NSOL	2465 TEMP	t08i045	76.64	.3156E+11	205.6	.9467E+08
8 NSOL	2240 TEMP	s08i045	76.59	.3156E+11	204.6	.9467E+08
9 NSOL	2331 TEMP	h08i045	77.37	.3156E+11	215.7	.9467E+08
10 NSOL	2379 TEMP	c08i045	78.14	.3156E+11	225.6	.6312E+08
11 NSOL	2427 TEMP	h08o045	77.29	.3156E+11	210.8	.9467E+08
12 NSOL	2268 TEMP	s08o045	75.86	.3156E+11	185.3	.1262E+09
13 NSOL	2494 TEMP	g08i045	75.78	.3156E+11	183.8	.1262E+09

14 NSOL	3689 TEMP	g08o045	75.64	.3156E+11	180.9	.1262E+09
15 NSOL	4332 TEMP	i08i045	27.78	.1000E-05	133.4	.2525E+09
16 NSOL	4272 TEMP	i08o045	26.97	.1000E-05	132.5	.2525E+09
17 NSOL	4521 TEMP	o08o045	26.14	.1000E-05	131.7	.2525E+09
18 NSOL	3390 TEMP	c11i045	76.74	.3156E+11	199.4	.9467E+08
19 NSOL	2716 TEMP	c12i045	76.79	.3156E+11	200.2	.9467E+08
20 NSOL	4304 TEMP	i13i000	28.07	.1000E-05	134.5	.2525E+09
21 NSOL	4240 TEMP	i13o000	27.38	.1000E-05	133.8	.2525E+09
22 NSOL	4487 TEMP	o13o000	26.14	.1000E-05	132.8	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:39:36 JUN 13, 1995 CP= 72185.630
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i045	84 TEMP h01o045	23 TEMP s01o045	348 TEMP t01o045	3831 TEMP ts1o045	2465 TEMP t08i045
.10000E-05	163.606	148.656	130.030	128.935	128.908	128.886
.20000E-05	196.896	183.575	166.868	165.807	165.780	165.759
31.558	196.896	183.575	166.868	165.807	165.780	165.759
.31558E+07	217.709	205.439	189.938	188.941	188.916	188.896
.63116E+07	221.740	209.664	194.391	193.400	193.376	193.356
.94673E+07	223.886	211.959	196.867	195.882	195.858	195.838
.12623E+08	225.370	213.554	198.606	197.627	197.603	197.583
.15779E+08	226.475	214.755	199.927	198.954	198.929	198.910
.18935E+08	227.324	215.687	200.966	199.997	199.973	199.953
.22090E+08	227.996	216.436	201.812	200.848	200.824	200.804
.25246E+08	228.539	217.048	202.514	201.555	201.531	201.512
.28402E+08	228.977	217.551	203.101	202.147	202.123	202.104
.31558E+08	229.333	217.969	203.598	202.648	202.624	202.605
.63115E+08	230.806	219.903	206.130	205.216	205.193	205.174
.94673E+08	230.407	219.846	206.520	205.635	205.613	205.595
.12623E+09	229.410	219.122	206.152	205.293	205.271	205.254
.15779E+09	228.342	218.269	205.583	204.744	204.723	204.706
.18935E+09	226.489	216.656	204.285	203.470	203.450	203.433
.22090E+09	224.980	215.331	203.204	202.407	202.387	202.371
.25246E+09	223.503	214.030	202.134	201.355	201.336	201.320
.28402E+09	221.502	212.176	200.477	199.713	199.694	199.679
.31558E+09	219.868	210.659	199.115	198.364	198.346	198.331
.63115E+09	202.449	194.436	184.501	183.876	183.861	183.848
.94673E+09	187.219	180.172	171.492	170.963	170.950	170.939
.12623E+10	173.699	167.417	159.723	159.267	159.256	159.247
.15779E+10	162.269	156.657	149.818	149.424	149.414	149.407
.18935E+10	152.961	147.907	141.783	141.437	141.429	141.422
.22090E+10	145.194	140.626	135.111	134.804	134.797	134.791
.25246E+10	138.278	134.116	129.106	128.831	128.824	128.819
.28402E+10	132.864	129.035	124.436	124.187	124.181	124.176
.31558E+10	128.143	124.616	120.387	120.160	120.155	120.150
.63115E+10	105.528	103.370	100.807	100.676	100.673	100.670
.94673E+10	97.2175	95.5225	93.5181	93.4177	93.4153	93.4133
.12623E+11	92.4769	91.0507	89.3670	89.2836	89.2816	89.2800
.15779E+11	89.1391	87.8935	86.4248	86.3525	86.3507	86.3493
.18935E+11	86.1500	85.0511	83.7565	83.6930	83.6915	83.6903
.22090E+11	83.7250	82.7366	81.5731	81.5164	81.5150	81.5139
.25246E+11	81.6117	80.7196	79.6704	79.6195	79.6182	79.6172
.28402E+11	79.8237	79.0092	78.0518	78.0056	78.0045	78.0035
.31558E+11	78.3121	77.5620	76.6810	76.6386	76.6375	76.6367

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 22:39:36 JUN 13, 1995 CP= 72185.640
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2240 TEMP s08i045	2331 TEMP h08i045	2379 TEMP c08i045	2427 TEMP h08o045	2268 TEMP s08o045	2494 TEMP g08i045
.10000E-05	127.616	143.843	159.153	141.931	110.120	108.370
.20000E-05	164.562	178.761	191.690	175.076	144.894	143.179
31.558	164.562	178.761	191.689	175.076	144.894	143.179
.31558E+07	187.787	200.860	212.444	196.276	167.205	165.514
.63116E+07	192.257	205.098	216.407	200.330	171.476	169.790
.94673E+07	194.749	207.416	218.528	202.554	173.916	172.238
.12623E+08	196.503	209.033	220.001	204.113	175.662	173.991
.15779E+08	197.837	210.253	221.102	205.293	177.010	175.347
.18935E+08	198.887	211.203	221.951	206.215	178.088	176.433
.22090E+08	199.744	211.969	222.627	206.962	178.983	177.335
.25246E+08	200.458	212.599	223.175	207.578	179.739	178.099
.28402E+08	201.055	213.120	223.621	208.089	180.384	178.751
.31558E+08	201.562	213.555	223.986	208.517	180.943	179.317
.63115E+08	204.174	215.636	225.572	210.619	184.081	182.514
.94673E+08	204.628	215.709	225.303	210.778	185.073	183.555
.12623E+09	204.314	215.095	224.430	210.266	185.254	183.778
.15779E+09	203.788	214.334	223.468	209.599	185.146	183.704
.18935E+09	202.540	212.830	221.752	208.228	184.421	183.018
.22090E+09	201.497	211.589	220.349	207.093	183.786	182.414
.25246E+09	200.465	210.369	218.975	205.974	183.142	181.800
.28402E+09	198.840	208.589	217.074	204.305	181.901	180.586
.31558E+09	197.504	207.131	215.521	202.936	180.873	179.580
.63115E+09	183.151	191.493	198.901	188.203	169.571	168.494
.94673E+09	170.343	177.686	184.297	175.086	159.086	158.175
.12623E+10	158.730	165.284	171.257	163.205	149.250	148.466
.15779E+10	148.957	154.817	160.210	153.131	140.899	140.219
.18935E+10	141.024	146.291	151.187	144.895	134.062	133.464
.22090E+10	134.436	139.197	143.651	138.025	128.348	127.817
.25246E+10	128.500	132.838	136.921	131.845	123.117	122.642
.28402E+10	123.885	127.878	131.652	127.016	119.050	118.618
.31558E+10	119.885	123.565	127.057	122.812	115.525	115.131
.63115E+10	100.516	102.770	104.950	102.433	98.1242	97.8965
.94673E+10	93.2940	95.0625	96.7841	94.8273	91.4871	91.3119
.12623E+11	89.1806	90.6689	92.1221	90.4847	87.6927	87.5469
.15779E+11	86.2632	87.5632	88.8351	87.4107	84.9837	84.8574
.18935E+11	83.6147	84.7615	85.8854	84.6327	82.4994	82.3886
.22090E+11	81.4463	82.4779	83.4904	82.3671	80.4552	80.3562
.25246E+11	79.5565	80.4876	81.4028	80.3917	78.6715	78.5826
.28402E+11	77.9484	78.7987	79.6354	78.7145	77.1481	77.0673
.31558E+11	76.5861	77.3693	78.1407	77.2943	75.8552	75.7810

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:36 JUN 13, 1995 CP= 72185.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3689 TEMP g08o045	4332 TEMP i08i045	4272 TEMP i08o045	4521 TEMP o08o045	3390 TEMP c11i045	2716 TEMP c12i045
.10000E-05	105.009	27.7831	26.9679	26.1409	129.543	129.718
.20000E-05	139.868	70.9637	69.9957	69.0248	162.629	162.850
31.558	139.868	70.9637	69.9957	69.0248	162.628	162.850
.31558E+07	162.266	99.2305	98.1836	97.1330	183.719	184.504
.63116E+07	166.555	104.625	103.571	102.513	187.793	188.588
.94673E+07	169.020	107.943	106.886	105.830	190.065	190.862

.12623E+08	170.789	110.398	109.342	108.288	191.677	192.473
.15779E+08	172.160	112.359	111.304	110.253	192.911	193.706
.18935E+08	173.261	113.980	112.927	111.879	193.887	194.681
.22090E+08	174.177	115.373	114.322	113.277	194.686	195.479
.25246E+08	174.954	116.591	115.542	114.501	195.354	196.144
.28402E+08	175.621	117.669	116.623	115.585	195.915	196.704
.31558E+08	176.199	118.636	117.593	116.559	196.393	197.180
.63115E+08	179.506	124.845	123.832	122.831	198.910	199.684
.94673E+08	180.641	128.122	127.139	126.169	199.418	200.178
.12623E+09	180.945	130.120	129.164	128.221	199.206	199.952
.15779E+09	180.937	131.445	130.512	129.592	198.783	199.518
.18935E+09	180.328	132.308	131.403	130.510	197.699	198.421
.22090E+09	179.784	132.892	132.008	131.137	196.788	197.498
.25246E+09	179.227	133.397	132.534	131.683	195.882	196.583
.28402E+09	178.066	133.136	132.292	131.461	194.413	195.098
.31558E+09	177.102	132.882	132.054	131.238	193.204	193.878
.63115E+09	166.431	129.188	128.515	127.850	180.076	180.655
.94673E+09	156.424	124.401	123.843	123.290	168.190	168.696
.12623E+10	146.957	118.927	118.457	117.990	157.256	157.698
.15779E+10	138.909	114.287	113.887	113.489	147.947	148.342
.18935E+10	132.313	110.460	110.115	109.771	140.331	140.686
.22090E+10	126.796	107.242	106.941	106.639	133.970	134.294
.25246E+10	121.726	104.061	103.795	103.528	128.210	128.505
.28402E+10	117.788	101.651	101.413	101.172	123.716	123.988
.31558E+10	114.375	99.6057	99.3910	99.1741	119.806	120.061
.63115E+10	97.4618	88.7146	88.5979	88.4803	100.697	100.857
.94673E+10	90.9785	84.1879	84.1005	84.0123	93.4932	93.6201
.12623E+11	87.2701	81.5887	81.5172	81.4450	89.3767	89.4843
.15779E+11	84.6180	79.6765	79.6152	79.5532	86.4525	86.5464
.18935E+11	82.1790	77.8290	77.7757	77.7220	83.7936	83.8758
.22090E+11	80.1691	76.2686	76.2214	76.1737	81.6186	81.6920
.25246E+11	78.4148	74.9032	74.8612	74.8188	79.7208	79.7870
.28402E+11	76.9149	73.7162	73.6783	73.6398	78.1055	78.1662
.31558E+11	75.6414	72.7009	72.6663	72.6314	76.7363	76.7925

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 72185.820 TIME= 22:39:37
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 88 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 30 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 369 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 6 IS AT NODE 3936 ITEM= TEMP COMP= NAME= ts1o090

VARIABLE 7 IS AT NODE 412 ITEM= TEMP COMP= NAME= t02i090

VARIABLE 8 IS AT NODE 129 ITEM= TEMP COMP= NAME= s02i090

VARIABLE 9 IS AT NODE 209 ITEM= TEMP COMP= NAME= h02i090

VARIABLE 10 IS AT NODE 261 ITEM= TEMP COMP= NAME= c02i090

VARIABLE 11 IS AT NODE 313 ITEM= TEMP COMP= NAME= h02o090

VARIABLE 12 IS AT NODE 157 ITEM= TEMP COMP= NAME= s02o090

VARIABLE 13 IS AT NODE 469 ITEM= TEMP COMP= NAME= t02i090

VARIABLE 14 IS AT NODE 1236 ITEM= TEMP COMP= NAME= s04i090

VARIABLE 15 IS AT NODE 1316 ITEM= TEMP COMP= NAME= h04i090

VARIABLE 16 IS AT NODE 1368 ITEM= TEMP COMP= NAME= c04i090
 VARIABLE 17 IS AT NODE 1407 ITEM= TEMP COMP= NAME= h04o090
 VARIABLE 18 IS AT NODE 1264 ITEM= TEMP COMP= NAME= s04o090
 VARIABLE 19 IS AT NODE 1518 ITEM= TEMP COMP= NAME= t04o090
 VARIABLE 20 IS AT NODE 4057 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 21 IS AT NODE 3993 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 22 IS AT NODE 4484 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i090	78.31	.3156E+11	230.8	.6312E+08
3 NSOL	88 TEMP	h01o090	77.88	.3156E+11	224.6	.6312E+08
4 NSOL	30 TEMP	s01o090	76.82	.3156E+11	209.5	.9467E+08
5 NSOL	369 TEMP	t01o090	76.82	.3156E+11	209.4	.9467E+08
6 NSOL	3936 TEMP	ts1o090	76.82	.3156E+11	209.4	.9467E+08
7 NSOL	412 TEMP	t02i090	76.82	.3156E+11	209.4	.9467E+08
8 NSOL	129 TEMP	s02i090	76.82	.3156E+11	209.5	.9467E+08
9 NSOL	209 TEMP	h02i090	77.81	.3156E+11	223.2	.6312E+08
10 NSOL	261 TEMP	c02i090	78.20	.3156E+11	228.3	.6312E+08
11 NSOL	313 TEMP	h02o090	77.79	.3156E+11	221.9	.6312E+08
12 NSOL	157 TEMP	s02o090	76.88	.3156E+11	208.8	.9467E+08
13 NSOL	469 TEMP	t02i090	76.88	.3156E+11	208.7	.9467E+08
14 NSOL	1236 TEMP	s04i090	76.88	.3156E+11	208.7	.9467E+08
15 NSOL	1316 TEMP	h04i090	77.30	.3156E+11	212.5	.9467E+08
16 NSOL	1368 TEMP	c04i090	77.18	.3156E+11	208.4	.9467E+08
17 NSOL	1407 TEMP	h04o090	76.60	.3156E+11	197.6	.9467E+08
18 NSOL	1264 TEMP	s04o090	74.82	.3156E+11	166.1	.1578E+09
19 NSOL	1518 TEMP	t04o090	74.82	.3156E+11	165.9	.1578E+09
20 NSOL	4057 TEMP	i04i090	28.51	.1000E-05	132.8	.2525E+09
21 NSOL	3993 TEMP	i04o090	27.57	.1000E-05	131.8	.2525E+09
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	130.5	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:40 JUN 13, 1995 CP= 72188.930
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i090	88 TEMP h01o090	30 TEMP s01o090	369 TEMP t01o090	3936 TEMP ts1o090	412 TEMP t02i090
.10000E-05	163.606	155.116	133.736	133.602	133.597	133.601
.20000E-05	196.896	189.354	170.463	170.334	170.329	170.334
31.558	196.896	189.354	170.464	170.335	170.330	170.334
.31558E+07	217.709	210.734	193.281	193.156	193.151	193.155
.63116E+07	221.740	214.877	197.712	197.589	197.584	197.588
.94673E+07	223.886	217.108	200.166	200.043	200.039	200.043
.12623E+08	225.370	218.657	201.888	201.766	201.761	201.765
.15779E+08	226.475	219.816	203.190	203.069	203.064	203.068
.18935E+08	227.324	220.712	204.212	204.092	204.087	204.091
.22090E+08	227.996	221.428	205.042	204.922	204.917	204.922
.25246E+08	228.539	222.011	205.729	205.610	205.605	205.609
.28402E+08	228.977	222.486	206.301	206.183	206.178	206.182
.31558E+08	229.333	222.877	206.783	206.666	206.661	206.665
.63116E+08	230.806	224.611	209.194	209.081	209.076	209.080

.94673E+08	230.407	224.405	209.484	209.374	209.369	209.373
.12623E+09	229.410	223.561	209.031	208.925	208.920	208.924
.15779E+09	228.342	222.614	208.393	208.289	208.285	208.289
.18935E+09	226.489	220.895	207.015	206.914	206.910	206.913
.22090E+09	224.980	219.488	205.871	205.772	205.768	205.771
.25246E+09	223.503	218.110	204.742	204.645	204.641	204.644
.28402E+09	221.502	216.192	203.032	202.937	202.933	202.936
.31558E+09	219.868	214.623	201.628	201.534	201.531	201.534
.63115E+09	202.449	197.871	186.590	186.512	186.509	186.511
.94673E+09	187.219	183.184	173.261	173.193	173.191	173.193
.12623E+10	173.699	170.095	161.244	161.186	161.184	161.186
.15779E+10	162.269	159.043	151.134	151.083	151.081	151.083
.18935E+10	152.961	150.051	142.938	142.893	142.891	142.893
.22090E+10	145.194	142.561	136.134	136.094	136.093	136.094
.25246E+10	138.278	135.876	130.022	129.986	129.985	129.986
.28402E+10	132.864	130.653	125.267	125.234	125.233	125.234
.31558E+10	128.143	126.104	121.142	121.112	121.111	121.112
.63115E+10	105.528	104.276	101.239	101.222	101.221	101.222
.94673E+10	97.2175	96.2329	93.8509	93.8375	93.8370	93.8375
.12623E+11	92.4769	91.6479	89.6436	89.6325	89.6321	89.6324
.15779E+11	89.1391	88.4148	86.6646	86.6550	86.6546	86.6549
.18935E+11	86.1500	85.5109	83.9668	83.9584	83.9581	83.9583
.22090E+11	83.7250	83.1500	81.7615	81.7539	81.7536	81.7539
.25246E+11	81.6117	81.0926	79.8393	79.8325	79.8322	79.8324
.28402E+11	79.8237	79.3496	78.2055	78.1993	78.1990	78.1993
.31558E+11	78.3121	77.8754	76.8216	76.8159	76.8157	76.8159

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:40 JUN 13, 1995 CP= 72188.950
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	129 TEMP s02i090	209 TEMP h02i090	261 TEMP c02i090	313 TEMP h02o090	157 TEMP s02o090	469 TEMP t02i090
.10000E-05	133.728	153.668	161.136	152.905	134.622	134.560
.20000E-05	170.454	187.895	194.330	186.836	170.593	170.531
31.558	170.455	187.895	194.330	186.836	170.593	170.532
.31558E+07	193.271	209.261	215.071	207.993	192.884	192.823
.63116E+07	197.703	213.404	219.094	212.100	197.219	197.158
.94673E+07	200.157	215.642	221.246	214.323	199.622	199.561
.12623E+08	201.878	217.197	222.737	215.870	201.313	201.253
.15779E+08	203.181	218.362	223.849	217.030	202.591	202.531
.18935E+08	204.203	219.264	224.705	217.929	203.595	203.536
.22090E+08	205.033	219.985	225.386	218.648	204.411	204.351
.25246E+08	205.720	220.573	225.937	219.236	205.086	205.028
.28402E+08	206.292	221.053	226.382	219.716	205.649	205.590
.31558E+08	206.774	221.449	226.747	220.114	206.124	206.066
.63115E+08	209.185	223.229	228.296	221.917	208.506	208.450
.94673E+08	209.475	223.063	227.968	221.785	208.803	208.749
.12623E+09	209.023	222.255	227.035	221.011	208.370	208.318
.15779E+09	208.385	221.337	226.020	220.123	207.753	207.702
.18935E+09	207.007	219.653	224.231	218.478	206.409	206.359
.22090E+09	205.863	218.274	222.771	217.130	205.292	205.243
.25246E+09	204.734	216.921	221.342	215.807	204.188	204.140
.28402E+09	203.024	215.027	219.387	213.945	202.511	202.464
.31558E+09	201.621	213.478	217.790	212.421	201.134	201.088
.63115E+09	186.585	196.914	200.723	196.094	186.338	186.299
.94673E+09	173.256	182.375	185.769	181.731	173.173	173.140
.12623E+10	161.240	169.401	172.464	168.889	161.270	161.242
.15779E+10	151.131	158.444	161.207	158.029	151.225	151.201
.18935E+10	142.935	149.523	152.029	149.177	143.065	143.043
.22090E+10	136.131	142.092	144.369	141.799	136.282	136.263
.25246E+10	130.020	135.457	137.542	135.207	130.185	130.168

.28402E+10	125.265	130.272	132.197	130.054	125.436	125.421
.31558E+10	121.140	125.758	127.537	125.566	121.313	121.299
.63115E+10	101.238	104.077	105.184	103.987	101.389	101.381
.94673E+10	93.8502	96.0791	96.9525	96.0144	93.9764	93.9702
.12623E+11	89.6430	91.5198	92.2566	91.4676	89.7525	89.7474
.15779E+11	86.6641	88.3038	88.9484	88.2598	86.7617	86.7573
.18935E+11	83.9664	85.4136	85.9829	85.3756	84.0540	84.0501
.22090E+11	81.7611	83.0630	83.5759	83.0299	81.8411	81.8376
.25246E+11	79.8389	81.0145	81.4779	80.9853	79.9122	79.9091
.28402E+11	78.2051	79.2787	79.7022	79.2526	78.2727	78.2699
.31558E+11	76.8213	77.8103	78.2006	77.7867	76.8842	76.8816

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:40 JUN 13, 1995 CP= 72188.960
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1236 TEMP s04i090	1316 TEMP h04i090	1368 TEMP c04i090	1407 TEMP h04o090	1264 TEMP s04o090	1518 TEMP t04o090
.10000E-05	134.570	142.335	139.454	127.010	86.6685	86.4872
.20000E-05	170.538	176.446	172.743	160.559	122.157	121.965
31.558	170.538	176.445	172.742	160.559	122.157	121.965
.31558E+07	192.827	197.674	193.506	181.531	144.509	144.312
.63116E+07	197.161	201.819	197.574	185.645	148.932	148.734
.94673E+07	199.564	204.095	199.819	187.954	151.533	151.336
.12623E+08	201.256	205.691	201.402	189.597	153.424	153.228
.15779E+08	202.533	206.900	202.604	190.852	154.901	154.705
.18935E+08	203.538	207.844	203.548	191.848	156.101	155.906
.22090E+08	204.353	208.608	204.313	192.664	157.111	156.916
.25246E+08	205.029	209.238	204.947	193.347	157.978	157.783
.28402E+08	205.592	209.760	205.474	193.923	158.729	158.535
.31558E+08	206.067	210.198	205.919	194.415	159.391	159.197
.63115E+08	208.451	212.336	208.143	197.031	163.356	163.168
.94673E+08	208.750	212.485	208.393	197.609	165.022	164.839
.12623E+09	208.319	211.950	207.957	197.450	165.767	165.590
.15779E+09	207.703	211.258	207.349	197.069	166.117	165.943
.18935E+09	206.360	209.844	206.043	196.028	165.917	165.748
.22090E+09	205.244	208.674	204.958	195.150	165.690	165.525
.25246E+09	204.141	207.521	203.886	194.274	165.432	165.271
.28402E+09	202.466	205.815	202.264	192.834	164.550	164.393
.31558E+09	201.090	204.416	200.931	191.647	163.806	163.651
.63115E+09	186.301	189.356	186.544	178.724	155.277	155.151
.94673E+09	173.143	175.988	173.699	167.001	146.885	146.779
.12623E+10	161.244	163.920	162.031	156.201	138.675	138.585
.15779E+10	151.203	153.690	152.107	147.001	131.676	131.599
.18935E+10	143.046	145.339	143.987	139.475	125.921	125.854
.22090E+10	136.266	138.383	137.214	133.191	121.096	121.037
.25246E+10	130.170	132.137	131.117	127.496	116.599	116.546
.28402E+10	125.423	127.260	126.354	123.054	113.117	113.070
.31558E+10	121.301	123.016	122.207	119.192	110.107	110.064
.63115E+10	101.382	102.499	102.081	100.311	94.9636	94.9396
.94673E+10	93.9714	94.8638	94.5558	93.1882	89.0524	89.0341
.12623E+11	89.7484	90.5084	90.2596	89.1187	85.6651	85.6501
.15779E+11	86.7582	87.4277	87.2169	86.2268	83.2271	83.2141
.18935E+11	84.0509	84.6454	84.4639	83.5948	80.9597	80.9484
.22090E+11	81.8384	82.3768	82.2176	81.4398	79.0798	79.0697
.25246E+11	79.9098	80.3986	80.2582	79.5591	77.4366	77.4276
.28402E+11	78.2705	78.7191	78.5933	77.9574	76.0255	76.0174
.31558E+11	76.8821	77.2970	77.1832	76.5994	74.8248	74.8174

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:40 JUN 13, 1995 CP= 72188.970

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4057 TEMP	3993 TEMP	4484 TEMP
	i04i090	i04o090	o04o090
.10000E-05	28.5094	27.5712	26.1409
.20000E-05	71.6388	70.5450	68.9905
31.558	71.6387	70.5450	68.9905
.31558E+07	98.6193	97.4364	95.7828
.63116E+07	103.997	102.806	101.148
.94673E+07	107.310	106.118	104.468
.12623E+08	109.766	108.574	106.933
.15779E+08	111.725	110.534	108.900
.18935E+08	113.347	112.159	110.533
.22090E+08	114.740	113.555	111.936
.25246E+08	115.959	114.776	113.165
.28402E+08	117.037	115.858	114.253
.31558E+08	118.005	116.829	115.232
.63115E+08	124.221	123.079	121.541
.94673E+08	127.505	126.397	124.909
.12623E+09	129.511	128.433	126.989
.15779E+09	130.844	129.792	128.384
.18935E+09	131.713	130.691	129.324
.22090E+09	132.303	131.306	129.972
.25246E+09	132.812	131.837	130.533
.28402E+09	132.568	131.616	130.341
.31558E+09	132.326	131.391	130.139
.63115E+09	128.704	127.941	126.913
.94673E+09	123.969	123.336	122.473
.12623E+10	118.549	118.014	117.278
.15779E+10	113.944	113.489	112.857
.18935E+10	110.145	109.752	109.200
.22090E+10	106.949	106.605	106.118
.25246E+10	103.791	103.487	103.053
.28402E+10	101.397	101.124	100.731
.31558E+10	99.3631	99.1166	98.7610
.63115E+10	88.5516	88.4168	88.2193
.94673E+10	84.0556	83.9544	83.8047
.12623E+11	81.4749	81.3919	81.2685
.15779E+11	79.5766	79.5055	79.3991
.18935E+11	77.7417	77.6798	77.5872
.22090E+11	76.1907	76.1359	76.0534
.25246E+11	74.8327	74.7838	74.7102
.28402E+11	73.6510	73.6068	73.5401
.31558E+11	72.6400	72.5998	72.5389

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 72189.130 TIME= 22:39:40
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 91 ITEM= TEMP COMP= NAME= h01o135

VARIABLE 4 IS AT NODE 16 ITEM= TEMP COMP= NAME= s01o135

VARIABLE 5 IS AT NODE 362 ITEM= TEMP COMP= NAME= t01o135

VARIABLE 6 IS AT NODE 3770 ITEM= TEMP COMP= NAME= ts1o135

VARIABLE 7 IS AT NODE 1790 ITEM= TEMP COMP= NAME= t07i135

VARIABLE 8 IS AT NODE 1565 ITEM= TEMP COMP= NAME= s07i135
 VARIABLE 9 IS AT NODE 1649 ITEM= TEMP COMP= NAME= h07i135
 VARIABLE 10 IS AT NODE 1705 ITEM= TEMP COMP= NAME= c07i135
 VARIABLE 11 IS AT NODE 1760 ITEM= TEMP COMP= NAME= h07o135
 VARIABLE 12 IS AT NODE 1580 ITEM= TEMP COMP= NAME= s07o135
 VARIABLE 13 IS AT NODE 1848 ITEM= TEMP COMP= NAME= g07i135
 VARIABLE 14 IS AT NODE 3603 ITEM= TEMP COMP= NAME= g07o135
 VARIABLE 15 IS AT NODE 4085 ITEM= TEMP COMP= NAME= i07i135
 VARIABLE 16 IS AT NODE 4025 ITEM= TEMP COMP= NAME= i07o135
 VARIABLE 17 IS AT NODE 4713 ITEM= TEMP COMP= NAME= o07o135
 Add centers of assemblies 9 and 10
 VARIABLE 18 IS AT NODE 3053 ITEM= TEMP COMP= NAME= c09i135
 VARIABLE 19 IS AT NODE 2042 ITEM= TEMP COMP= NAME= c10i135

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i135	78.31	.3156E+11	230.8	.6312E+08
3 NSOL	91 TEMP	h01o135	77.70	.3156E+11	222.0	.6312E+08
4 NSOL	16 TEMP	s01o135	76.65	.3156E+11	206.2	.9467E+08
5 NSOL	362 TEMP	t01o135	76.61	.3156E+11	205.2	.9467E+08
6 NSOL	3770 TEMP	ts1o135	76.60	.3156E+11	205.2	.9467E+08
7 NSOL	1790 TEMP	t07i135	76.60	.3156E+11	205.2	.9467E+08
8 NSOL	1565 TEMP	s07i135	76.55	.3156E+11	204.2	.9467E+08
9 NSOL	1649 TEMP	h07i135	77.32	.3156E+11	215.1	.9467E+08
10 NSOL	1705 TEMP	c07i135	78.07	.3156E+11	224.8	.6312E+08
11 NSOL	1760 TEMP	h07o135	77.39	.3156E+11	212.9	.9467E+08
12 NSOL	1580 TEMP	s07o135	75.75	.3156E+11	184.1	.1262E+09
13 NSOL	1848 TEMP	g07i135	75.68	.3156E+11	182.6	.1262E+09
14 NSOL	3603 TEMP	g07o135	75.54	.3156E+11	179.8	.1578E+09
15 NSOL	4085 TEMP	i07i135	27.78	.1000E-05	131.8	.2525E+09
16 NSOL	4025 TEMP	i07o135	26.97	.1000E-05	130.9	.2525E+09
17 NSOL	4713 TEMP	o07o135	26.14	.1000E-05	130.1	.2525E+09
18 NSOL	3053 TEMP	c09i135	76.67	.3156E+11	198.7	.9467E+08
19 NSOL	2042 TEMP	c10i135	76.66	.3156E+11	198.7	.9467E+08
20 NSOL	4057 TEMP	i04i090	28.51	.1000E-05	132.8	.2525E+09
21 NSOL	3993 TEMP	i04o090	27.57	.1000E-05	131.8	.2525E+09
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	130.5	.2525E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:42 JUN 13, 1995 CP= 72191.790
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i135	91 TEMP h01o135	16 TEMP s01o135	362 TEMP t01o135	3770 TEMP ts1o135	1790 TEMP t07i135
.10000E-05	163.606	151.611	130.030	128.935	128.908	128.886
.20000E-05	196.896	186.213	166.860	165.796	165.769	165.748
31.558	196.896	186.213	166.860	165.796	165.769	165.748

.31558E+07	217.709	207.754	189.602	188.526	188.499	188.477
.63116E+07	221.740	211.939	194.052	192.981	192.955	192.933
.94673E+07	223.886	214.205	196.528	195.464	195.437	195.416
.12623E+08	225.370	215.779	198.269	197.211	197.184	197.163
.15779E+08	226.475	216.961	199.591	198.539	198.513	198.491
.18935E+08	227.324	217.877	200.631	199.584	199.558	199.537
.22090E+08	227.996	218.611	201.478	200.436	200.410	200.389
.25246E+08	228.539	219.210	202.182	201.145	201.119	201.098
.28402E+08	228.977	219.700	202.770	201.738	201.712	201.691
.31558E+08	229.333	220.106	203.268	202.241	202.215	202.194
.63115E+08	230.806	221.951	205.807	204.818	204.793	204.773
.94673E+08	230.407	221.827	206.203	205.245	205.221	205.201
.12623E+09	229.410	221.050	205.841	204.910	204.886	204.867
.15779E+09	228.342	220.155	205.277	204.367	204.344	204.326
.18935E+09	226.489	218.495	203.985	203.099	203.077	203.059
.22090E+09	224.980	217.134	202.907	202.041	202.020	202.002
.25246E+09	223.503	215.799	201.841	200.994	200.972	200.955
.28402E+09	221.502	213.918	200.190	199.360	199.339	199.323
.31558E+09	219.868	212.379	198.834	198.018	197.997	197.981
.63115E+09	202.449	195.925	184.257	183.575	183.558	183.544
.94673E+09	187.219	181.477	171.277	170.696	170.682	170.670
.12623E+10	173.699	168.578	159.534	159.033	159.020	159.010
.15779E+10	162.269	157.691	149.649	149.214	149.203	149.195
.18935E+10	152.961	148.835	141.629	141.246	141.237	141.229
.22090E+10	145.194	141.462	134.969	134.628	134.620	134.613
.25246E+10	138.278	134.877	128.976	128.670	128.662	128.656
.28402E+10	132.864	129.734	124.315	124.036	124.030	124.024
.31558E+10	128.143	125.258	120.273	120.019	120.013	120.008
.63115E+10	105.528	103.759	100.733	100.585	100.581	100.578
.94673E+10	97.2175	95.8272	93.4592	93.3446	93.3418	93.3396
.12623E+11	92.4769	91.3065	89.3168	89.2212	89.2189	89.2170
.15779E+11	89.1391	88.1168	86.3808	86.2978	86.2958	86.2942
.18935E+11	86.1500	85.2480	83.7180	83.6452	83.6434	83.6420
.22090E+11	83.7250	82.9137	81.5387	81.4735	81.4720	81.4707
.25246E+11	81.6117	80.8794	79.6392	79.5807	79.5792	79.5781
.28402E+11	79.8237	79.1550	78.0231	77.9699	77.9686	77.9675
.31558E+11	78.3121	77.6961	76.6543	76.6054	76.6042	76.6032

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:42 JUN 13, 1995 CP= 72191.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1565 TEMP s07i135	1649 TEMP h07i135	1705 TEMP c07i135	1760 TEMP h07o135	1580 TEMP s07o135	1848 TEMP g07i135
.10000E-05	127.616	143.843	159.153	145.646	110.120	108.370
.20000E-05	164.549	178.745	191.671	178.577	144.863	143.148
31.558	164.549	178.745	191.670	178.577	144.863	143.148
.31558E+07	187.289	200.235	211.700	198.742	165.996	164.293
.63116E+07	191.754	204.467	215.651	202.756	170.250	168.551
.94673E+07	194.247	206.786	217.772	204.953	172.688	170.998
.12623E+08	196.003	208.406	219.248	206.493	174.438	172.755
.15779E+08	197.339	209.629	220.351	207.656	175.787	174.112
.18935E+08	198.391	210.581	221.203	208.564	176.870	175.202
.22090E+08	199.250	211.350	221.881	209.296	177.767	176.107
.25246E+08	199.965	211.982	222.431	209.899	178.527	176.874
.28402E+08	200.564	212.504	222.878	210.396	179.175	177.529
.31558E+08	201.073	212.940	223.245	210.813	179.737	178.098
.63115E+08	203.696	215.035	224.845	212.816	182.898	181.319
.94673E+08	204.159	215.118	224.587	212.896	183.910	182.380
.12623E+09	203.854	214.515	223.725	212.321	184.110	182.622
.15779E+09	203.335	213.762	222.773	211.604	184.020	182.566
.18935E+09	202.095	212.267	221.066	210.172	183.310	181.896

.22090E+09	201.059	211.034	219.672	208.991	182.690	181.307
.25246E+09	200.031	209.820	218.305	207.827	182.058	180.705
.28402E+09	198.416	208.052	216.418	206.129	180.842	179.516
.31558E+09	197.088	206.602	214.875	204.734	179.831	178.527
.63115E+09	182.790	191.030	198.331	189.708	168.661	167.575
.94673E+09	170.024	177.276	183.790	176.364	158.278	157.359
.12623E+10	158.449	164.923	170.809	164.319	148.537	147.746
.15779E+10	148.704	154.492	159.804	154.098	140.256	139.569
.18935E+10	140.795	145.994	150.814	145.741	133.475	132.872
.22090E+10	134.225	138.923	143.307	138.770	127.807	127.272
.25246E+10	128.306	132.587	136.605	132.510	122.620	122.140
.28402E+10	123.705	127.643	131.356	127.616	118.586	118.150
.31558E+10	119.715	123.343	126.778	123.352	115.088	114.690
.63115E+10	100.406	102.626	104.768	102.734	97.8408	97.6106
.94673E+10	93.2060	94.9471	96.6372	95.0553	91.2595	91.0823
.12623E+11	89.1055	90.5703	91.9964	90.6723	87.4984	87.3509
.15779E+11	86.1974	87.4768	88.7249	87.5729	84.8135	84.6856
.18935E+11	83.5570	84.6857	85.7887	84.7758	82.3501	82.2380
.22090E+11	81.3947	82.4101	83.4038	82.4956	80.3216	80.2214
.25246E+11	79.5098	80.4262	81.3243	80.5068	78.5506	78.4606
.28402E+11	77.9054	78.7422	79.5632	78.8184	77.0368	76.9550
.31558E+11	76.5461	77.3166	78.0734	77.3888	75.7516	75.6765

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=IP 9000/7XX 22:39:43 JUN 13, 1995 CP= 72191.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3603 TEMP g07o135	4085 TEMP i07i135	4025 TEMP i07o135	4713 TEMP o07o135	3053 TEMP c09i135	2042 TEMP c10i135
.10000E-05	105.009	27.7831	26.9679	26.1409	129.543	129.718
.20000E-05	139.836	70.9143	69.9463	68.9755	162.610	162.811
31.558	139.837	70.9143	69.9463	68.9755	162.610	162.811
.31558E+07	161.022	97.3224	96.2742	95.2240	182.992	182.970
.63116E+07	165.293	102.703	101.647	100.586	187.053	187.031
.94673E+07	167.756	106.027	104.969	103.909	189.325	189.305
.12623E+08	169.529	108.493	107.435	106.378	190.939	190.920
.15779E+08	170.901	110.461	109.404	108.349	192.174	192.156
.18935E+08	172.006	112.092	111.037	109.985	193.152	193.136
.22090E+08	172.925	113.493	112.440	111.392	193.953	193.937
.25246E+08	173.706	114.720	113.669	112.624	194.622	194.607
.28402E+08	174.375	115.805	114.757	113.715	195.184	195.170
.31558E+08	174.957	116.780	115.735	114.697	195.664	195.650
.63115E+08	178.289	123.047	122.031	121.026	198.194	198.182
.94673E+08	179.444	126.370	125.384	124.410	198.714	198.701
.12623E+09	179.767	128.408	127.449	126.502	198.512	198.498
.15779E+09	179.777	129.767	128.831	127.907	198.099	198.085
.18935E+09	179.185	130.662	129.753	128.857	197.024	197.008
.22090E+09	178.656	131.275	130.387	129.512	196.121	196.104
.25246E+09	178.111	131.802	130.936	130.081	195.222	195.202
.28402E+09	176.975	131.582	130.735	129.900	193.768	193.749
.31558E+09	176.029	131.357	130.526	129.706	192.569	192.551
.63115E+09	165.495	127.884	127.208	126.540	179.519	179.494
.94673E+09	155.593	123.262	122.701	122.146	167.693	167.662
.12623E+10	146.224	117.932	117.460	116.990	156.814	156.782
.15779E+10	138.248	113.399	112.998	112.598	147.547	147.513
.18935E+10	131.711	109.657	109.311	108.965	139.966	139.930
.22090E+10	126.241	106.508	106.205	105.902	133.633	133.597
.25246E+10	121.216	103.390	103.124	102.855	127.900	127.864
.28402E+10	117.311	101.028	100.788	100.546	123.426	123.389
.31558E+10	113.927	99.0213	98.8054	98.5875	119.533	119.496
.63115E+10	97.1710	88.3427	88.2252	88.1070	100.518	100.489
.94673E+10	90.7450	83.8911	83.8031	83.7144	93.3496	93.3241

.12623E+11	87.0708	81.3360	81.2640	81.1913	89.2539	89.2314
.15779E+11	84.4434	79.4554	79.3937	79.3313	86.3449	86.3246
.18935E+11	82.0259	77.6354	77.5818	77.5276	83.6991	83.6812
.22090E+11	80.0321	76.0956	76.0481	76.0000	81.5341	81.5178
.25246E+11	78.2907	74.7466	74.7043	74.6616	79.6442	79.6292
.28402E+11	76.8009	73.5722	73.5341	73.4954	78.0350	78.0210
.31558E+11	75.5352	72.5670	72.5322	72.4970	76.6706	76.6573

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i180

*** WARNING *** CP= 72191.980 TIME= 22:39:43
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 13 ITEM= TEMP COMP= NAME= h01o180

VARIABLE 4 IS AT NODE 2 ITEM= TEMP COMP= NAME= s01o180

VARIABLE 5 IS AT NODE 390 ITEM= TEMP COMP= NAME= t01o180

VARIABLE 6 IS AT NODE 3759 ITEM= TEMP COMP= NAME= ts5i180

VARIABLE 7 IS AT NODE 636 ITEM= TEMP COMP= NAME= t05i180

VARIABLE 8 IS AT NODE 516 ITEM= TEMP COMP= NAME= s05i180

VARIABLE 9 IS AT NODE 520 ITEM= TEMP COMP= NAME= h05i180

VARIABLE 10 IS AT NODE 524 ITEM= TEMP COMP= NAME= c05i180

VARIABLE 11 IS AT NODE 528 ITEM= TEMP COMP= NAME= h05o180

VARIABLE 12 IS AT NODE 517 ITEM= TEMP COMP= NAME= s05o180

VARIABLE 13 IS AT NODE 480 ITEM= TEMP COMP= NAME= t05i180

VARIABLE 14 IS AT NODE 872 ITEM= TEMP COMP= NAME= s03i180

VARIABLE 15 IS AT NODE 876 ITEM= TEMP COMP= NAME= h03i180

VARIABLE 16 IS AT NODE 880 ITEM= TEMP COMP= NAME= c03i180

VARIABLE 17 IS AT NODE 883 ITEM= TEMP COMP= NAME= h03o180

VARIABLE 18 IS AT NODE 873 ITEM= TEMP COMP= NAME= s03o180

VARIABLE 19 IS AT NODE 1036 ITEM= TEMP COMP= NAME= t03o180

VARIABLE 20 IS AT NODE 4105 ITEM= TEMP COMP= NAME= i03i180

VARIABLE 21 IS AT NODE 3992 ITEM= TEMP COMP= NAME= i03o180

VARIABLE 22 IS AT NODE 4679 ITEM= TEMP COMP= NAME= o03o180

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES							
VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i180	78.31	.3156E+11	230.8	.6312E+08
3	NSOL	13 TEMP	h01o180	77.83	.3156E+11	223.9	.6312E+08
4	NSOL	2 TEMP	s01o180	76.71	.3156E+11	207.4	.9467E+08
5	NSOL	390 TEMP	t01o180	76.71	.3156E+11	207.3	.9467E+08
6	NSOL	3759 TEMP	ts5i180	76.71	.3156E+11	207.3	.9467E+08
7	NSOL	636 TEMP	t05i180	76.71	.3156E+11	207.3	.9467E+08
8	NSOL	516 TEMP	s05i180	76.71	.3156E+11	207.4	.9467E+08

9 NSOL	520 TEMP	h05i180	77.74	.3156E+11	222.0	.6312E+08
10 NSOL	524 TEMP	c05i180	78.16	.3156E+11	227.7	.6312E+08
11 NSOL	528 TEMP	h05o180	77.76	.3156E+11	221.6	.6312E+08
12 NSOL	517 TEMP	s05o180	76.86	.3156E+11	208.7	.9467E+08
13 NSOL	680 TEMP	t05i180	76.86	.3156E+11	208.7	.9467E+08
14 NSOL	872 TEMP	s03i180	76.86	.3156E+11	208.7	.9467E+08
15 NSOL	876 TEMP	h03i180	77.28	.3156E+11	212.7	.9467E+08
16 NSOL	880 TEMP	c03i180	77.20	.3156E+11	209.2	.9467E+08
17 NSOL	883 TEMP	h03o180	76.66	.3156E+11	199.4	.9467E+08
18 NSOL	873 TEMP	s03o180	75.02	.3156E+11	170.9	.1578E+09
19 NSOL	1036 TEMP	t03o180	75.01	.3156E+11	170.7	.1578E+09
20 NSOL	4105 TEMP	i03i180	28.07	.1000E-05	131.4	.2525E+09
21 NSOL	3992 TEMP	i03o180	27.38	.1000E-05	130.7	.2525E+09
22 NSOL	4679 TEMP	o03o180	26.14	.1000E-05	129.6	.2525E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:46 JUN 13, 1995 CP= 72195.100
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i180	13 TEMP h01o180	2 TEMP s01o180	390 TEMP t01o180	3759 TEMP ts5i180	636 TEMP t05i180
.10000E-05	163.606	154.393	131.456	131.361	131.361	131.368
.20000E-05	196.896	188.652	168.256	168.165	168.164	168.172
31.558	196.896	188.651	168.256	168.165	168.165	168.172
.31558E+07	217.709	209.953	190.939	190.849	190.849	190.856
.63116E+07	221.740	214.098	195.382	195.293	195.293	195.301
.94673E+07	223.886	216.334	197.850	197.762	197.762	197.769
.12623E+08	225.370	217.887	199.585	199.497	199.497	199.505
.15779E+08	226.475	219.050	200.900	200.813	200.813	200.820
.18935E+08	227.324	219.950	201.934	201.847	201.847	201.855
.22090E+08	227.996	220.669	202.775	202.689	202.689	202.696
.25246E+08	228.539	221.255	203.473	203.387	203.387	203.394
.28402E+08	228.977	221.733	204.055	203.970	203.970	203.977
.31558E+08	229.333	222.127	204.548	204.463	204.463	204.470
.63115E+08	230.806	223.887	207.040	206.958	206.958	206.965
.94673E+08	230.407	223.701	207.396	207.317	207.317	207.324
.12623E+09	229.410	222.875	207.001	206.924	206.924	206.930
.15779E+09	228.342	221.943	206.409	206.334	206.334	206.340
.18935E+09	226.489	220.241	205.084	205.011	205.011	205.017
.22090E+09	224.980	218.848	203.981	203.910	203.910	203.916
.25246E+09	223.503	217.482	202.891	202.821	202.821	202.827
.28402E+09	221.502	215.576	201.219	201.150	201.150	201.156
.31558E+09	219.868	214.018	199.845	199.777	199.777	199.783
.63115E+09	202.449	197.357	185.095	185.039	185.039	185.044
.94673E+09	187.219	182.742	171.985	171.937	171.937	171.941
.12623E+10	173.699	169.711	160.141	160.099	160.100	160.103
.15779E+10	162.269	158.708	150.173	150.137	150.137	150.140
.18935E+10	152.961	149.753	142.089	142.057	142.057	142.060
.22090E+10	145.194	142.293	135.376	135.348	135.348	135.351
.25246E+10	138.278	135.635	129.340	129.315	129.315	129.317
.28402E+10	132.864	130.432	124.645	124.622	124.622	124.624
.31558E+10	128.143	125.901	120.573	120.552	120.552	120.554
.63115E+10	105.528	104.155	100.905	100.893	100.893	100.894
.94673E+10	97.2175	96.1386	93.5913	93.5820	93.5820	93.5827
.12623E+11	92.4769	91.5688	89.4266	89.4189	89.4189	89.4195
.15779E+11	89.1391	88.3459	86.4760	86.4692	86.4692	86.4698
.18935E+11	86.1500	85.4504	83.8014	83.7955	83.7955	83.7960
.22090E+11	83.7250	83.0959	81.6133	81.6080	81.6080	81.6084
.25246E+11	81.6117	81.0439	79.7061	79.7014	79.7014	79.7018
.28402E+11	79.8237	79.3051	78.0840	78.0797	78.0797	78.0800
.31558E+11	78.3121	77.8344	76.7100	76.7060	76.7061	76.7064

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:46 JUN 13, 1995 CP= 72195.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	516 TEMP s05i180	520 TEMP h05i180	524 TEMP c05i180	528 TEMP h05o180	517 TEMP s05o180	680 TEMP t05i180
.10000E-05	131.454	152.547	160.773	152.925	134.890	134.828
.20000E-05	168.254	186.817	193.995	186.890	170.905	170.844
31.558	168.254	186.817	193.994	186.889	170.905	170.845
.31558E+07	190.935	207.972	214.455	207.698	192.775	192.716
.63116E+07	195.379	212.120	218.478	211.804	197.110	197.050
.94673E+07	197.847	214.367	220.634	214.030	199.515	199.456
.12623E+08	199.582	215.929	222.130	215.580	201.210	201.151
.15779E+08	200.897	217.101	223.245	216.743	202.490	202.431
.18935E+08	201.931	218.009	224.105	217.644	203.496	203.438
.22090E+08	202.772	218.735	224.788	218.366	204.313	204.255
.25246E+08	203.470	219.329	225.342	218.955	204.990	204.933
.28402E+08	204.052	219.814	225.790	219.437	205.554	205.497
.31558E+08	204.544	220.216	226.157	219.836	206.030	205.973
.63115E+08	207.037	222.037	227.725	221.648	208.416	208.361
.94673E+08	207.393	221.906	227.412	221.522	208.714	208.661
.12623E+09	206.997	221.126	226.492	220.753	208.282	208.230
.15779E+09	206.406	220.232	225.487	219.869	207.665	207.615
.18935E+09	205.081	218.576	223.709	218.228	206.319	206.270
.22090E+09	203.978	217.218	222.259	216.883	205.201	205.153
.25246E+09	202.888	215.885	220.838	215.562	204.096	204.049
.28402E+09	201.216	214.012	218.893	213.705	202.422	202.376
.31558E+09	199.842	212.479	217.304	212.185	201.046	201.001
.63115E+09	185.093	196.064	200.301	195.882	186.248	186.211
.94673E+09	171.983	181.642	185.399	181.538	173.082	173.050
.12623E+10	160.140	168.763	172.139	168.716	161.183	161.155
.15779E+10	150.172	157.884	160.917	157.869	151.139	151.115
.18935E+10	142.088	149.023	151.766	149.028	142.979	142.958
.22090E+10	135.376	141.642	144.129	141.660	136.198	136.180
.25246E+10	129.340	135.050	137.322	135.077	130.104	130.087
.28402E+10	124.645	129.899	131.994	129.931	125.357	125.342
.31558E+10	120.573	125.414	127.348	125.449	121.235	121.222
.63115E+10	100.905	103.869	105.064	103.908	101.330	101.322
.94673E+10	93.5912	95.9165	96.8569	95.9493	93.9267	93.9205
.12623E+11	89.4265	91.3831	92.1753	91.4115	89.7089	89.7038
.15779E+11	86.4759	88.1847	88.8773	88.2103	86.7229	86.7184
.18935E+11	83.8013	85.3089	85.9203	85.3320	84.0197	84.0158
.22090E+11	81.6132	82.9693	83.5197	82.9907	81.8102	81.8067
.25246E+11	79.7060	80.9300	81.4271	80.9496	79.8838	79.8807
.28402E+11	78.0840	79.2015	79.6555	79.2196	78.2463	78.2435
.31558E+11	76.7099	77.7391	78.1573	77.7557	76.8592	76.8566

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:46 JUN 13, 1995 CP= 72195.120
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	872 TEMP s03i180	876 TEMP h03i180	880 TEMP c03i180	883 TEMP h03o180	873 TEMP s03o180	1036 TEMP t03o180
.10000E-05	134.840	142.922	140.702	129.269	92.4339	92.2893

.20000E-05	170.852	177.100	174.103	162.996	128.280	128.128
31.558	170.852	177.100	174.103	162.996	128.280	128.129
.31558E+07	192.720	197.883	194.388	183.452	150.031	149.877
.63116E+07	197.055	202.029	198.457	187.569	154.448	154.293
.94673E+07	199.460	204.307	200.704	189.877	157.033	156.878
.12623E+08	201.155	205.905	202.287	191.517	158.906	158.751
.15779E+08	202.435	207.115	203.489	192.770	160.364	160.210
.18935E+08	203.441	208.061	204.432	193.762	161.545	161.391
.22090E+08	204.258	208.825	205.196	194.574	162.534	162.381
.25246E+08	204.936	209.456	205.828	195.252	163.381	163.228
.28402E+08	205.500	209.978	206.353	195.823	164.112	163.959
.31558E+08	205.976	210.415	206.796	196.309	164.753	164.601
.63115E+08	208.364	212.549	208.997	198.872	168.538	168.390
.94673E+08	208.663	212.691	209.223	199.398	170.042	169.898
.12623E+09	208.232	212.149	208.764	199.193	170.647	170.508
.15779E+09	207.617	211.452	208.139	198.774	170.882	170.746
.18935E+09	206.272	210.029	206.808	197.683	170.544	170.411
.22090E+09	205.155	208.852	205.706	196.768	170.210	170.080
.25246E+09	204.051	207.692	204.615	195.855	169.849	169.722
.28402E+09	202.378	205.984	202.980	194.386	168.877	168.753
.31558E+09	201.004	204.582	201.637	193.175	168.060	167.938
.63115E+09	186.213	189.479	187.119	179.986	158.788	158.689
.94673E+09	173.053	176.077	174.172	168.056	149.831	149.748
.12623E+10	161.158	163.989	162.432	157.106	141.193	141.122
.15779E+10	151.118	153.738	152.444	147.775	133.836	133.775
.18935E+10	142.961	145.372	144.273	140.143	127.798	127.745
.22090E+10	136.182	138.402	137.457	133.773	122.742	122.695
.25246E+10	130.090	132.148	131.328	128.010	118.060	118.019
.28402E+10	125.344	127.263	126.538	123.513	114.431	114.394
.31558E+10	121.224	123.012	122.367	119.601	111.291	111.257
.63115E+10	101.324	102.481	102.156	100.527	95.6134	95.5943
.94673E+10	93.9218	94.8449	94.6072	93.3469	89.5400	89.5255
.12623E+11	89.7049	90.4900	90.2991	89.2470	86.0648	86.0528
.15779E+11	86.7194	87.4105	87.2496	86.3359	83.5699	83.5596
.18935E+11	84.0167	84.6300	84.4920	83.6897	81.2586	81.2496
.22090E+11	81.8075	82.3626	82.2423	81.5239	79.3454	79.3373
.25246E+11	79.8814	80.3851	80.2793	79.6334	77.6731	77.6660
.28402E+11	78.2441	78.7061	78.6117	78.0239	76.2388	76.2323
.31558E+11	76.8572	77.2842	77.1989	76.6591	75.0186	75.0127

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:39:46 JUN 13, 1995 CP= 72195.140
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4105 TEMP	3992 TEMP	4679 TEMP
	i03i180	i03o180	o03o180
.10000E-05	28.0717	27.3823	26.1409
.20000E-05	71.0737	70.2846	68.9605
31.558	71.0737	70.2846	68.9605
.31558E+07	96.9319	96.0807	94.6653
.63116E+07	102.301	101.444	100.024
.94673E+07	105.618	104.761	103.350
.12623E+08	108.081	107.226	105.823
.15779E+08	110.048	109.194	107.798
.18935E+08	111.678	110.826	109.438
.22090E+08	113.079	112.229	110.848
.25246E+08	114.305	113.457	112.083
.28402E+08	115.390	114.545	113.178
.31558E+08	116.365	115.523	114.162
.63115E+08	122.637	121.819	120.512
.94673E+08	125.967	125.174	123.911
.12623E+09	128.012	127.241	126.015
.15779E+09	129.378	128.625	127.430

.18935E+09	130.280	129.549	128.390
.22090E+09	130.899	130.186	129.053
.25246E+09	131.431	130.735	129.628
.28402E+09	131.221	130.540	129.459
.31558E+09	131.004	130.335	129.273
.63115E+09	127.588	127.043	126.168
.94673E+09	123.007	122.554	121.818
.12623E+10	117.715	117.332	116.702
.15779E+10	113.209	112.883	112.340
.18935E+10	109.488	109.205	108.730
.22090E+10	106.354	106.106	105.686
.25246E+10	103.252	103.032	102.657
.28402E+10	100.899	100.702	100.362
.31558E+10	98.9006	98.7223	98.4140
.63115E+10	88.2656	88.1676	87.9947
.94673E+10	83.8294	83.7557	83.6240
.12623E+11	81.2835	81.2229	81.1141
.15779E+11	79.4094	79.3574	79.2634
.18935E+11	77.5953	77.5500	77.4681
.22090E+11	76.0598	76.0196	75.9466
.25246E+11	74.7141	74.6783	74.6130
.28402E+11	73.5423	73.5099	73.4506
.31558E+11	72.5389	72.5093	72.4551

***** ROUTINE COMPLETED ***** CP = 72195.140

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21j.db
FOR POSSIBLE RESUME FROM THIS POINT

```
NUMBER OF WARNING MESSAGES ENCOUNTERED=      64
NUMBER OF ERROR  MESSAGES ENCOUNTERED=       0
```

```

*-----*
*                                ANSYS RUN COMPLETED                                *
*-----*
*                                REV. 5.0 A                                HP 9000/7XX                                *
*                                CP TIME      (sec) =      72199.290      TIME = 22:39:50                                *
*                                ELAPSED TIME (sec) =      78919.000      DATE  = 06/13/95                                *
*-----*

```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****

JOB NAME = ucf21h
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****

WORK SPACE REQUESTED	=	16777216	64.000	MB	COMMAND LINE
MINIMUM WORK SPACE REQUIRED	=	4718592	18.000	MB	
MINIMUM WORK SPACE RECOMMENDED	=	6702496	25.568	MB	
WORK SPACE OBTAINED	=	16777216	64.000	MB	
BYTES PER WORD	=	4			

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 RESULTS SHOULD BE IMMEDIATELY BROUGHT TO OUR ATTENTION.

ENTER /SHOW,device TO SET THE GRAPHICS DISPLAY TO device(e.g. X11,4207,ETC.)

ENTER /MENU,ON TO START THE ANSYS MENU SYSTEM

ENTER HELP FOR GENERAL ANSYS HELP INFORMATION

```

1 /COM, *****
2 /COM, ANSYS REVISION 5.0A 6/10/1995
3 /COM, 2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz
4 /COM, *****
5 /COM, *
6 /COM, * File name: ucf21h.inp
7 /COM, * 21 PWR UCF with Low T.L. Disposal Container
8 /COM, * Helium Fill Gas
9 /COM, *
10 /COM, * Material Property file: props01.dat
11 /COM, *
12 /COM, * SNF Conductivity file: pwr15e.parm
13 /COM, * 15x15 Mark-B4 PWR SNF Assembly
14 /COM, *
15 /COM, * SNF Heat Loads file: snf1048.dat
16 /COM, * SNF Type: 10 years old, 48086 Mwd/MTU
17 /COM, *
18 /COM, * Surface Temp. file: c21h5a.parm
    
```

```

19 /COM, *      25 MTU/acre (6.18 kgU/m^2) AML (Low Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 90.0 m *
22 /COM, *      WP c/c spacing = 16.165 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM, Read in average effective conductivities from SNF model
33 PARRES,CHANGE,pwr15e,parm,
34 /COM, Read in surface temps. from repository model
35 PARRES,CHANGE,c21h5a,parm,
36 /COM, *****
37 /COM,
38 /COM, Define Required Constants:
39 PI=3.141592654
40 /COM,
41 /COM, Define UCF/waste package parameters
42 /COM, (UCF dimensions converted from inches/cm/mm to meters were requi
43 /COM, MIRAD = inner radius of UCF He Backfill shell (m) (NOT
44 /COM, MWALL = UCF He Backfill shell thickness (m) (NOT
45 /COM, DCRAD = disposal container outer radius (m)
46 /COM, OWALL = outer barrier thickness (m)
47 /COM, IWALL = inner barrier thickness (m)
48 /COM, DCIRD = disposal container inner radius (m)
49 /COM,
50 /COM, GCORN = corner guide width (m)
51 /COM, GWALL = basket guide thickness (m)
52 /COM, GLEN1 = side guide 1/3 width (m) (NOT USED)
53 /COM, GLENT = side guide total width (m) (NOT USED)
54 /COM,
55 /COM, HCELL = 1/2 of basket cell opening (m)
56 /COM, SWALL = stainless tube thickness (m)
57 /COM, TWALL = Aluminum thermal shunt thickness (m)
58 /COM, AWALL = Al/boron tube thickness (m) (NOT USED)
59 /COM,
60 /COM, ACTVL = active fuel length
61 /COM, PEAKF = assembly heat axial peaking factor
62 /COM,
63 /COM, MIRAD=1363.6/1000.0/2.0
64 /COM, MWALL=1.0000*2.54/100.0
65 DCRAD=1.5290/2.0
66 OWALL=0.0500
67 IWALL=0.0200
68 DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 GCORN=233.5/1000.0
71 GWALL=9.5/1000.0
72 /COM, GLEN1=9.6170*2.54/100.0
73 /COM, GLENT=28.866*2.54/100.0
74 /COM,
75 HCELL=223.5/1000.0/2.0
76 SWALL=5.0/1000.0
77 TWALL=10.0/1000.0
78 /COM, AWALL=0.2500*2.54/100.0
79 /COM,
80 ACTVL=141.8*2.54/100.0
81 PEAKF=1.25
82 /COM, Define calculated parameters
83 /COM, ASSY = assembly heat production (W) f(yrs)
84 /COM, FUEL = volumetric heat production (W/m3) f(yrs)
85 /COM, FVOLU = assy_volume=cell_width^2*active_length
86 /COM,
87 /COM, PITCH = basket cell outer width (m)
88 /COM, QCELL = 1/4 of basket cell opening (m)

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89 /COM,          SCELL = 1/2 of basket cell opening+SS wall(m)
90 /COM,          ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)
91 /COM,
92 /COM,          GX## = x coord. of basket guide or thermal shunt/shell c
93 /COM,          GX## = y coord. of basket guide or thermal shunt/shell c
94 /COM,
95 /COM,          MI45 = x coord. MIRAD at 45 deg. (NOT USED)
96 /COM,          MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
97 /COM,          DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
98 /COM,          DM45 = x coord. DCRAD-OWALL at 45 deg.
99 /COM,          DO45 = x coord. DCRAD at 45 deg.
100 *SET,ASSY,
101 *DIM,ASSY, TABLE,101,1,
102 *DIM,FUEL, TABLE,101,1
103 FVOLL=4*HCELL*HCELL*ACTVL
104 /COM,
105 PITCH=(HCELL+SWALL)*2.0
106 QCELL=HCELL/2.0
107 SCELL=HCELL+SWALL
108 /COM,  ACELL=HCELL+SWALL+AWALL
109 /COM,
110 GX22=SCELL
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=SCELL+TWALL
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=PITCH+TWALL+SCELL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 GX25=GX23+PITCH+GWALL
117 GY25=SQRT(DCIRD*DCIRD-GX25*GX25)
118 /COM,
119 /COM,  MI45=MIRAD/SQRT(2.0)
120 /COM,  MO45=(MIRAD+MWALL)/SQRT(2.0)
121 DI45=DCIRD/SQRT(2.0)
122 DM45=(DCIRD-OWALL)/SQRT(2.0)
123 DO45=DCIRD/SQRT(2.0)
124 /COM,
125 /COM,          Define Transient Time parameters based upon the following:
126 /COM,          Note: 1 year = 3.15576e7 seconds
127 /COM,          TM_START = start time (sec)
128 /COM,          TMI* = time increment for solution (sec)
129 /COM,          TME* = start and stop for time do-loops (sec)
130 /COM,          TMTMAX = time of maximum cladding temperature
131 /COM,
132 TM_START=(1.0E-6)*(3.15576E7)
133 TMI0=0.1*3.15576E7
134 TMI1=1.0*3.15576E7
135 TMI10=10.0*3.15576E7
136 TMI100=100.0*3.15576E7
137 TMI1000=1000.0*3.15576E7
138 TME0=0.9*3.15576E7+TM_START
139 TME1=TMI1+TM_START
140 TME9=9.0*3.15576E7+TM_START
141 TME10=TMI10+TM_START
142 TME50=50.0*3.15576E7+TM_START
143 TME90=90.0*3.15576E7+TM_START
144 TME100=TMI100+TM_START
145 TME1000=TMI1000+TM_START
146 /COM,
147 /COM,          *****
148 /COM,          Define different element types
149 /PREP7
150 ETYPE
151 ET, 1,55,
152 ET, 2,70,
153 ET, 7,32,
154 ET, 16,57,
155 ET, 17,32,
156 ET, 18,50,1,
157 ET, 19,31,
158 ET, 27,32,

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159 /COM, *****
160 /COM, File props01.dat describes material properties
161 /COM, and thier reference numbers
162 MPREAD,props01,dat,
163 /COM, Read in single assembly heat loads
164 /COM, Calculate the volumetric heat generation
165 /COM, (Assembly time is in years, FUEL is in seconds)
166 /INPUT,snf1048,dat
167 *VFACT,3.15576E7,
168 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
169 *VFACT,(PEAKF/FVOLUME),
170 *VFUN,FUEL(1),COPY,ASSY(1),
171 FUEL(0,1)=1.0
172 /COM, *****
173 /COM, Define new material 14 for SNF effective conductivity
174 /COM, Density: DENS (kg/m^3)
175 /COM, Conductivity: KXX (W/m/K)
176 /COM, Specific Heat: C (J/kg/K)
177 MPTEMP
178 MPTEMP, 1, .00000E+00,
179 MPDATA,DENS,14, 1, .396004E+04,
180 MPDATA, C,14, 1, .27400E+03,
181 /COM, Store average effective conductivities
182 IINC=1
183 TBSKT=25.0
184 MPTEMP
185 MPTEMP,IINC,TBSKT,
186 IINC=IINC+1
187 *DO,TBSKT,50.0,400.0,50.0,
188 MPTEMP,IINC,TBSKT,
189 IINC=IINC+1
190 *ENDDO
191 IINC=1
192 TBSKT=25.0
193 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
194 IINC=IINC+1
195 *DO,TBSKT,50.0,400.0,50.0,
196 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
197 IINC=IINC+1
198 *ENDDO
199 /COM, *****
200 /COM, Define new material 15 for low thermal loading
201 /COM, outer barrier of 70/30 Copper Nickel (C71500)
202 /COM, Density: DENS (kg/m^3)
203 /COM, Conductivity: KXX (W/m/K)
204 /COM, Specific Heat: C (J/kg/K)
205 MPTEMP
206 MPTEMP, 1, .00000E+00,
207 /COM, Density (lb/in^3 converted to kg/m^3)
208 MPDATA,DENS,15, 1,(0.323*2.768E+04),
209 /COM, Specific Heat (Btu/lb/F converted to J/kg/K)
210 MPDATA, C,15, 1,(0.09/2.3886E-04),
211 /COM, Conductivity (Btu/hr/ft/F converted to W/m/K)
212 MPTEMP
213 MPTEMP, 1, (5.0/9.0*(68.0-32.0)), (5.0/9.0*(212.0-32.0)),
214 MPTEMP, 3, (5.0/9.0*(392.0-32.0)), (5.0/9.0*(572.0-32.0)),
215 MPTEMP, 5, (5.0/9.0*(752.0-32.0)), (5.0/9.0*(932.0-32.0)),
216 MPTEMP, 7,(5.0/9.0*(1112.0-32.0)),(5.0/9.0*(1292.0-32.0)),
217 MPDATA, KXX,15, 1, (17.0*1.7307), (16.9*1.7307),
218 MPDATA, KXX,15, 3, (19.7*1.7307), (22.3*1.7307),
219 MPDATA, KXX,15, 5, (24.9*1.7307), (27.8*1.7307),
220 MPDATA, KXX,15, 7, (30.7*1.7307), (33.6*1.7307),
221 /COM, *****
222 /COM, Construct geometry for Disposal Container
223 /COM,
224 /COM, Define center and axis keypoints for waste package
225 /COM, Also, create placeholder keypoints and lines
226 /COM, (K's 1,2,3,4,5,6,7,8)
227 /COM, (L's 1,2,3,4)
228 K,1,0.0,0.0,0.0,

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229 K,2,0.0,0.0,1.0,
230 K,3,0.0,0.0,1.3,
231 K,4,0.0,0.0,1.4,
232 K,5,0.0,0.0,1.5,
233 K,6,0.0,0.0,1.6,
234 K,7,0.0,0.0,1.7,
235 K,8,0.0,0.0,1.8,
236 L,3,4,
237 L,4,5,
238 L,5,6,
239 L,6,7,
240 /COM, Define disposal container outer radius and material interface
241 /COM, (K's 9,10,11,12,13,14)
242 /COM, (L's 5,6,7,8,9,10,11)
243 /COM, (A's 1,2)
244 K, 9, 0.0, (0.0-DCRAD),0.0,
245 K,10, DCRAD, 0.0,0.0,
246 K,11, 0.0, DCRAD,0.0,
247 K,12, 0.0, (OWALL-DCRAD),0.0,
248 K,13, (DCRAD-OWALL), 0.0,0.0,
249 K,14, 0.0, (DCRAD-OWALL),0.0,
250 L,10,13,
251 LARC,10, 9,1, DCRAD,
252 LARC,11,10,1, DCRAD,
253 LARC,13,12,1, (DCRAD-OWALL),
254 LARC,14,13,1, (DCRAD-OWALL),
255 L,11,14,
256 L, 9,12,
257 AL, 5, 6,11, 8,
258 AL,10, 7, 5, 9,
259 /COM, *****
260 /COM, Define UCF shell inner edge and area
261 /COM, (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
262 /COM, ( 31,32,33)
263 /COM, (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
264 /COM, ( 28,29,30,31,32)
265 /COM, (A's 3,4)
266 K,15, 0.0, DCIRD,0.0,
267 K,16, GX22, GY22,0.0,
268 K,17, GX23, GY23,0.0,
269 K,18, GX24, GY24,0.0,
270 K,19, GX25, GY25,0.0,
271 K,20, GY25, GX25,0.0,
272 K,21, GY24, GX24,0.0,
273 K,22, GY23, GX23,0.0,
274 K,23, GY22, GX22,0.0,
275 K,24,DCIRD, 0.0,0.0,
276 K,25, GY22, (0.0-GX22),0.0,
277 K,26, GY23, (0.0-GX23),0.0,
278 K,27, GY24, (0.0-GX24),0.0,
279 K,28, GY25, (0.0-GX25),0.0,
280 K,29, GX25, (0.0-GY25),0.0,
281 K,30, GX24, (0.0-GY24),0.0,
282 K,31, GX23, (0.0-GY23),0.0,
283 K,32, GX22, (0.0-GY22),0.0,
284 K,33, 0.0,(0.0-DCIRD),0.0,
285 L,14,15,
286 LARC,16,15,1,DCIRD,
287 LARC,17,16,1,DCIRD,
288 LARC,18,17,1,DCIRD,
289 LARC,19,18,1,DCIRD,
290 LARC,20,19,1,DCIRD,
291 LARC,21,20,1,DCIRD,
292 LARC,22,21,1,DCIRD,
293 LARC,23,22,1,DCIRD,
294 LARC,24,23,1,DCIRD,
295 LARC,25,24,1,DCIRD,
296 LARC,26,25,1,DCIRD,
297 LARC,27,26,1,DCIRD,
298 LARC,28,27,1,DCIRD,

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299 LARC,29,28,1,DCIRD,
300 LARC,30,29,1,DCIRD,
301 LARC,31,30,1,DCIRD,
302 LARC,32,31,1,DCIRD,
303 LARC,33,32,1,DCIRD,
304 L,33,12,
305 L,24,13,
306 LSEL,S,LINE,,12,21,
307 LSEL,A,LINE,, 9,
308 LSEL,A,LINE,,32,
309 AL,ALL,
310 LSEL,S,LINE,,22,31,
311 LSEL,A,LINE,, 8,
312 LSEL,A,LINE,,32,
313 AL,ALL,
314 LSEL,ALL,
315 /COM, *****
316 /COM, Define tube guides
317 /COM, (K's 34,35,36,37)
318 /COM, (L's 33,34,35,36,37,38,39,40,41,42)
319 /COM, (A's 5,6,7,8,9,10)
320 /COM,
321 /COM, top guide
322 K,34, GX24, 0.0,
323 K,35, GX25, 0.0,
324 L,19,35,
325 L,35,20,
326 L,21,34,
327 L,34,18,
328 /COM, bottom guide
329 K,36, GX25, (0.0-GX25),0.0,
330 K,37, GX24, (0.0-GX24),0.0,
331 L,28,36,
332 L,36,29,
333 L,30,37,
334 L,37,27,
335 L,34,35,
336 L,37,36,
337 /COM, Guide gaps
338 AL,17,33,34,
339 AL,26,37,38,
340 /COM, Guide steel
341 AL,16,33,41,36,
342 AL,18,35,41,34,
343 AL,25,37,42,40,
344 AL,27,39,42,38,
345 /COM, *****
346 /COM, Define thermal shunts
347 /COM, (K's 38,39,40,41,42,43,44,45,46,47,48,49,50)
348 /COM, ( 51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)
349 /COM, (L's 43,44,45,46,47,48,49)
350 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)
351 /COM, ( 67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)
352 /COM, ( 84,85,86,87,88,89,90)
353 /COM, (A's 11 - 27)
354 /COM,
355 /COM, top horizontal thermal shunt
356 K,38, 0.0, SCELL,0.0,
357 K,39, 0.0, (SCELL+TWALL),0.0,
358 K,40, SCELL, SCELL,0.0,
359 K,41, SCELL, (SCELL+TWALL),0.0,
360 K,42, (SCELL+TWALL), SCELL,0.0,
361 K,43, (SCELL+TWALL), (SCELL+TWALL),0.0,
362 K,44, (SCELL+TWALL+1.0*PITCH), SCELL,0.0,
363 K,45, (SCELL+TWALL+1.0*PITCH), (SCELL+TWALL),0.0,
364 K,46, (SCELL+TWALL+2.0*PITCH), SCELL,0.0,
365 K,47, (SCELL+TWALL+2.0*PITCH), (SCELL+TWALL),0.0,
366 /COM, bottom horizontal thermal shunt
367 K,48, 0.0, (0.0-SCELL),0.0,
368 K,49, 0.0, (0.0-SCELL-TWALL),0.0,

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369 K,50,          SCELL,          (0.0-SCELL),0.0,
370 K,51,          SCELL,          (0.0-SCELL-TWALL),0.0,
371 K,52,          (SCELL+TWALL),    (0.0-SCELL),0.0,
372 K,53,          (SCELL+TWALL),    (0.0-SCELL-TWALL),0.0,
373 K,54,(SCELL+TWALL+1.0*PITCH),    (0.0-SCELL),0.0,
374 K,55,(SCELL+TWALL+1.0*PITCH),    (0.0-SCELL-TWALL),0.0,
375 K,56,(SCELL+TWALL+2.0*PITCH),    (0.0-SCELL),0.0,
376 K,57,(SCELL+TWALL+2.0*PITCH),    (0.0-SCELL-TWALL),0.0,
377 /COM,          right vertical thermal shunt
378 K,58,          SCELL,          (SCELL+TWALL+2.0*PITCH),0.0,
379 K,59,          (SCELL+TWALL),    (SCELL+TWALL+2.0*PITCH),0.0,
380 K,60,          SCELL,          (SCELL+TWALL+1.0*PITCH),0.0,
381 K,61,          (SCELL+TWALL),    (SCELL+TWALL+1.0*PITCH),0.0,
382 K,62,          SCELL,(0.0-SCELL-TWALL-1.0*PITCH),0.0,
383 K,63,          (SCELL+TWALL),(0.0-SCELL-TWALL-1.0*PITCH),0.0,
384 K,64,          SCELL,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
385 K,65,          (SCELL+TWALL),(0.0-SCELL-TWALL-2.0*PITCH),0.0,
386 /COM, Lines; shunt widths, top, bottom, then vertical: (43-60)
387 L,38,39,
388 L,40,41,
389 L,42,43,
390 L,44,45,
391 L,46,47,
392 L,48,49,
393 L,50,51,
394 L,52,53,
395 L,54,55,
396 L,56,57,
397 L,58,59,
398 L,60,61,
399 L,41,43,
400 L,40,42,
401 L,50,52,
402 L,51,53,
403 L,62,63,
404 L,64,65,
405 /COM, Lines; shunt edges, top, bottom, then vertical: (61-90)
406 L,39,41,
407 L,40,38,
408 L,43,45,
409 L,44,42,
410 L,45,47,
411 L,46,44,
412 L,47,22,
413 L,23,46,
414 L,48,50,
415 L,51,49,
416 L,52,54,
417 L,55,53,
418 L,54,56,
419 L,57,55,
420 L,56,25,
421 L,26,57,
422 L,58,16,
423 L,17,59,
424 L,60,58,
425 L,59,61,
426 L,41,60,
427 L,61,43,
428 L,50,40,
429 L,42,52,
430 L,62,51,
431 L,53,63,
432 L,64,62,
433 L,63,65,
434 L,32,64,
435 L,65,31,
436 /COM,          define areas for thermal shunts
437 AL,43,61,44,62,
438 AL,44,55,45,56,

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439 AL,45,63,46,64,
440 AL,46,65,47,66,
441 AL,47,67,20,68,
442 AL,48,69,49,70,
443 AL,49,57,50,58,
444 AL,50,71,51,72,
445 AL,51,73,52,74,
446 AL,52,75,23,76,
447 AL,14,77,53,78,
448 AL,53,79,54,80,
449 AL,54,81,55,82,
450 AL,56,83,57,84,
451 AL,58,85,59,86,
452 AL,59,87,60,88,
453 AL,60,89,29,90,
454 /COM, *****
455 /COM, Define shell gaps at the exterior of the tube array
456 /COM, (K's 66 - 67)
457 /COM, (L's 91 - 99)
458 /COM, (A's 28 - 34)
459 /COM,
460 K,66, 0.0, (SCELL+TWALL+2.0*PITCH),0.0,
461 K,67, 0.0,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
462 /COM,
463 L,15,66,
464 L,66,58,
465 L,59,18,
466 L,21,47,
467 L,46,56,
468 L,57,27,
469 L,30,65,
470 L,64,67,
471 L,67,33,
472 /COM,
473 AL,13,91,92,77,
474 AL,15,78,93,
475 AL,19,94,67,
476 AL,21,68,95,75,22,
477 AL,24,76,96,
478 AL,28,97,90,
479 AL,30,89,98,99,
480 /COM, *****
481 /COM, Define center half-tube
482 /COM, (K's 68-75)
483 /COM, (L's 100-110)
484 /COM, (A's 35-38)
485 K,68, 0.0, HCELL,0.0,
486 K,69, HCELL, HCELL,0.0,
487 K,70, 0.0, (0.0-HCELL),0.0,
488 K,71, HCELL, (0.0-HCELL),0.0,
489 K,72, 0.0, SCCELL,0.0,
490 K,73, SCCELL, SCCELL,0.0,
491 K,74, 0.0, (0.0-SCCELL),0.0,
492 K,75, SCCELL, (0.0-SCCELL),0.0,
493 L,70,68,
494 L,70,74,
495 L,68,72,
496 L,71,75,
497 L,69,73,
498 L,75,74,
499 L,71,70,
500 L,68,69,
501 L,72,73,
502 L,69,71,
503 L,73,75,
504 AL,100,106,109,107,
505 AL,101,105,103,106,
506 AL,109,103,110,104,
507 AL,102,107,104,108,
508 /COM, *****

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509 /COM,          Define center full-tube
510 /COM,          (K's 76 - 83)
511 /COM,          (L's 111 - 122)
512 /COM,          (A's 39 - 43)
513 K,76,          (PITCH+TWALL-HCELL),          HCELL,0.0,
514 K,77,          (PITCH+TWALL+HCELL),          HCELL,0.0,
515 K,78,          (PITCH+TWALL-HCELL),          (0.0-HCELL),0.0,
516 K,79,          (PITCH+TWALL+HCELL),          (0.0-HCELL),0.0,
517 K,80,          (PITCH+TWALL-SCCELL),          SCCELL,0.0,
518 K,81,          (PITCH+TWALL+SCCELL),          SCCELL,0.0,
519 K,82,          (PITCH+TWALL-SCCELL),          (0.0-SCCELL),0.0,
520 K,83,          (PITCH+TWALL+SCCELL),          (0.0-SCCELL),0.0,
521 L,78,82,
522 L,76,80,
523 L,79,83,
524 L,77,81,
525 L,83,82,
526 L,79,78,
527 L,76,77,
528 L,80,81,
529 L,82,80,
530 L,78,76,
531 L,77,79,
532 L,81,83,
533 AL,120,116,121,117,
534 AL,119,111,120,112,
535 AL,111,115,113,116,
536 AL,121,113,122,114,
537 AL,112,117,114,118,
538 /COM,          *****
539 /COM,          Set element shapes and sizes for tubes
540 /COM,          14x14 mesh in fuel with 2
541 /COM,          divisions per tube layer
542 ESHAPE,2,
543 ESIZE,,1,
544 LSEL,S,LINE,,115,122,1,
545 LSEL,A,LINE,,109,110,1,
546 LSEL,A,LINE,,100,
547 LESIZE,ALL,,,14,
548 LSEL,S,LINE,,105,108,1,
549 LESIZE,ALL,,,7,
550 LSEL,S,LINE,,101,104,1,
551 LSEL,A,LINE,,111,114,1,
552 LESIZE,ALL,,,2,
553 LSEL,ALL,
554 /COM,
555 /COM,          Mesh areas
556 /COM,          first fuel, then stainless tubes
557 MAT,14,
558 TYPE,1,
559 AMESH,35,
560 AMESH,39,
561 MAT,1,
562 TYPE,1,
563 AMESH,36,38,1,
564 AMESH,40,43,1,
565 /COM,          *****
566 /COM,          Copy tube mesh
567 /COM,
568 /COM,          center half tube above and below
569 /COM,          (A's 44 - 47)
570 AGEN,2,35,38,1,0.0,(PITCH+TWALL),0.0,0,0,
571 /COM,          (A's 48 - 51)
572 AGEN,2,35,38,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
573 /COM,          (A's 52 - 55)
574 AGEN,2,35,38,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
575 /COM,          (A's 56 - 59)
576 AGEN,2,35,38,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
577 /COM,
578 /COM,          center full tube side, above, and below

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579 /COM, (A's 60 - 64 = Side)
580 AGEN,2,39,43,1,PITCH,0.0,0.0,0.0,0,
581 /COM, (A's 65 - 69 = up 1)
582 AGEN,2,39,43,1,0.0,(PITCH+TWALL),0.0,0.0,0,
583 /COM, (A's 70 - 74 = up 2)
584 AGEN,2,39,43,1,0.0,((2.0*PITCH)+TWALL),0.0,0.0,0,
585 /COM, (A's 75 - 79 = down 1)
586 AGEN,2,39,43,1,0.0,(0.0-PITCH-TWALL),0.0,0.0,0,
587 /COM, (A's 80 - 84 = down 2)
588 AGEN,2,39,43,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0.0,0,
589 /COM, center full tube get corners
590 /COM, (A's 85 - 89 = up corner)
591 AGEN,2,60,64,1,0.0,(PITCH+TWALL),0.0,0.0,0,
592 /COM, (A's 90 - 94 = down corner)
593 AGEN,2,60,64,1,0.0,(0.0-PITCH-TWALL),0.0,0.0,0,
594 /COM,
595 NUMMRG,NODE,
596 NUMMRG,KP,
597 /COM, *****
598 /COM, Create mesh in tube guides, thermal shunts
599 /COM, Set mesh size for gaps.....
600 ESIZE,,2,
601 LSEL,S,LINE,,41,60,1,
602 LSEL,A,LINE,,14,20,2,
603 LSEL,A,LINE,,23,29,2,
604 LESIZE,ALL,,, 2,
605 LSEL,S,LINE,,61,62,1,
606 LSEL,A,LINE,,69,70,1,
607 LSEL,A,LINE,,91,92,1,
608 LSEL,A,LINE,,98,99,1,
609 LSEL,A,LINE,,21,22,1,
610 LSEL,A,LINE,,77,78,1,
611 LSEL,A,LINE,,89,90,1,
612 LSEL,A,LINE,,67,68,1,
613 LSEL,A,LINE,,75,76,1,
614 LSEL,A,LINE,,13,
615 LSEL,A,LINE,,30,
616 LESIZE,ALL,,, 7,
617 LSEL,S,LINE,,63,66,1,
618 LSEL,A,LINE,,71,74,1,
619 LSEL,A,LINE,,79,88,1,
620 LSEL,A,LINE,,33,40,1,
621 LSEL,A,LINE,,93,97,1,
622 LSEL,A,LINE,,15,19,2,
623 LSEL,A,LINE,,24,28,2,
624 LESIZE,ALL,,, 14,
625 /COM, MESH CORNER GUIDES
626 ESHAPE,2,
627 ESIZE,,1,
628 MAT,2,
629 TYPE,1,
630 AMESH, 7,10,1,
631 /COM, MESH THERMAL SHUNTS
632 ESHAPE,2,
633 ESIZE,,1,
634 MAT,13,
635 TYPE,1,
636 AMESH,11,27,1,
637 /COM, *****
638 /COM, Create mesh in UCF inner shell
639 /COM, (L's 105,108)
640 LSEL,S,LINE,,13,21,1,
641 LCCAT,ALL,
642 LSEL,S,LINE,,22,30,1,
643 LCCAT,ALL,
644 LSEL,ALL,
645 LESIZE,8,,,64,
646 LESIZE,9,,,64,
647 LESIZE,12,,, 3,
648 LESIZE,31,,, 3,

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649 MAT,2,
650 TYPE,1,
651 AMESH,3,4,1
652 /COM,          Delete concatenated lines
653 /COM,          (L's freed up 105,108)
654 /COM, LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
655 /COM,
656 LSEL,S,LINE,,6,7,1,
657 LESIZE,ALL,,,64,
658 LSEL,ALL,
659 LESIZE, 5,,, 3,
660 LESIZE,10,,, 3,
661 LESIZE,11,,, 3,
662 MAT,15,
663 TYPE,1,
664 AMESH,1,2,1,
665 NUMMRG,NODE,
666 NUMMRG,KP,
667 /COM, *****
668 /COM,          Create mesh in empty basket spaces
669 ESIZE,0.1,
670 ESHAPE,0,
671 MAT,7,
672 TYPE,1,
673 AMESH, 5, 6,1,
674 AMESH,28,34,1,
675 NUMMRG,NODE,
676 NUMMRG,KP,
677 /COM, *****
678 /COM,          Create radiation surface elements
679 /COM,          Basket spaces
680 MAT,2,
681 TYPE,17,
682 LMESH,13,21,2,
683 LMESH,22,30,2,
684 LMESH,33,34,1,
685 LMESH,37,38,1,
686 MAT,1,
687 TYPE,17,
688 LMESH,92,98,1,
689 MAT,13,
690 TYPE,17,
691 LMESH,67,68,1,
692 LMESH,75,78,1,
693 LMESH,89,90,1,
694 /COM,
695 FINISH
696 /COM, *****
697 /COM,          Create element mesh plots to illustrate model
698 /COM,          View mesh for entire model
699 /RESET
700 /TRIAD,OFF,
701 /NUM, 1,
702 /PNUM,MAT, 1,
703 /TYPE,HIDP,
704 /GLINE,,0,
705 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
706 /TITLE, 21 PWR UCF/Waste Package - 1/2 FEM Model
707 /SHOW,meshfull,grph,1,8,
708 EPLOT
709 ESEL,U,MAT,, 7,
710 /SHOW,meshgap,grph,1,8,
711 EPLOT
712 /COM,          View mesh for radiation substructure
713 /PNUM,MAT, 0,
714 /PNUM,TYPE, 1,
715 ESEL,S,TYPE,,17,
716 /TITLE, 21 PWR UCF/Waste Package - Radiation Matrix
717 /SHOW,meshrad,grph,1,8,
718 EPLOT

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719 ESEL,ALL,
720 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
721 /COM, *****
722 /COM,          Generate super-elements
723 /AUX12,
724 ESEL,S,TYPE,,17,
725 NSLE,S,
726 STEF,5.67E-8,
727 GEOM,1,0,
728 VTYPE,0,800,
729 WRITE,spaces,
730 ESEL,ALL,
731 NSEL,ALL,
732 FINISH
733 /PREP7,
734 TYPE,18,
735 SE,spaces,
736 /COM,          Delete radiation edge elements
737 LSEL,S,TYPE,,17,
738 LCLEAR,ALL,
739 LSEL,ALL,
740 FINISH
741 /COM, *****
742 /COM,          Set solution parameters and apply B.C.'s
743 /COM,
744 /COM,          Solve steady-state for initial conditions
745 /COM,          with WP surface equal to drift ambient
746 /COM,          temperature from repository model.
747 /SOLU
748 ANTYPE,TRAN,NEW,
749 NROPT,AUTO,
750 TRNOPT,FULL,
751 TOFFST,273.15,
752 LSEL,S,LINE,,6,
753 LSEL,A,LINE,,7,
754 NSLL,S,1,
755 D,ALL,TEMP,DFAMBT,
756 LSEL,ALL,
757 NSEL,ALL,
758 ASEL,S,MAT,,14,
759 ESLA,S,
760 BFE,ALL,HGEN,,(FUEL(TM_START)),
761 ASEL,ALL,
762 ESEL,ALL,
763 TIMINT,OFF,
764 TIME,1e-6,
765 AUTOTS,ON,
766 KBC,0,
767 SOLVE
768 /COM,          Solve steady-state for initial conditions
769 /COM,          with WP surface temperatures from repository
770 /COM,          steady-state solution.
771 LSEL,S,LINE,,6,
772 LSEL,A,LINE,,7,
773 NSLL,S,1,
774 DDELE,ALL,TEMP,
775 LSEL,ALL,
776 NSEL,ALL,
777 DK,11,TEMP,(WPTOP(TM_START)),,1,
778 DK,10,TEMP,(WPSID(TM_START)),,1,
779 DK, 9,TEMP,(WPBOT(TM_START)),,1,
780 ASEL,S,MAT,,14,
781 ESLA,S,
782 BFE,ALL,HGEN,,(FUEL(TM_START)),
783 ASEL,ALL,
784 ESEL,ALL,
785 TIMINT,OFF,
786 TIME,2e-6,
787 AUTOTS,ON,
788 KBC,0,

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789 SOLVE
790 /COM, *****
791 /COM, Set time integration parameters
792 TIMINT,ON,
793 AUTOTS,ON,
794 /COM, Time substep ranges from 10 sec to 1/4 loadstep
795 NSUBST,10,40,5,ON
796 /COM, Begin Transient
797 /COM, Apply loads and solve for 0 to .9 years
798 *DO,TM,TM_START,TME0,TM10
799 TIME,TM,
800 ASEL,S,MAT,,14,
801 ESLA,S,
802 BFE,ALL,HGEN,,(FUEL(TM)),
803 ASEL,ALL
804 ESEL,ALL
805 DK,11,TEMP,(WPTOP(TM)),,1,
806 DK,10,TEMP,(WPSID(TM)),,1,
807 DK, 9,TEMP,(WPBOT(TM)),,1,
808 SOLVE
809 *ENDDO
810 /COM, Apply loads and solve for 1 to 9 years
811 *DO,TM,TME1,TME9,TM11
812 TIME,TM,
813 ASEL,S,MAT,,14,
814 ESLA,S,
815 BFE,ALL,HGEN,,(FUEL(TM)),
816 ASEL,ALL
817 ESEL,ALL
818 DK,11,TEMP,(WPTOP(TM)),,1,
819 DK,10,TEMP,(WPSID(TM)),,1,
820 DK, 9,TEMP,(WPBOT(TM)),,1,
821 SOLVE
822 *ENDDO
823 /COM, Apply loads and solve for 10 to 90 years
824 *DO,TM,TME10,TME90,TM110
825 TIME,TM,
826 ASEL,S,MAT,,14,
827 ESLA,S,
828 BFE,ALL,HGEN,,(FUEL(TM)),
829 ASEL,ALL
830 ESEL,ALL
831 DK,11,TEMP,(WPTOP(TM)),,1,
832 DK,10,TEMP,(WPSID(TM)),,1,
833 DK, 9,TEMP,(WPBOT(TM)),,1,
834 SOLVE
835 *ENDDO
836 /COM, Apply loads and solve for 100 to 1000 years
837 *DO,TM,TME100,TME1000,TM1100
838 TIME,TM,
839 ASEL,S,MAT,,14,
840 ESLA,S,
841 BFE,ALL,HGEN,,(FUEL(TM)),
842 ASEL,ALL
843 ESEL,ALL
844 DK,11,TEMP,(WPTOP(TM)),,1,
845 DK,10,TEMP,(WPSID(TM)),,1,
846 DK, 9,TEMP,(WPBOT(TM)),,1,
847 SOLVE
848 *ENDDO
849 FINISH
850 SAVE,
851 /COM, *****
852 /COM, Create element contour plots of solution results
853 /COM,
854 /COM, Sort through solution results for time of max temp.
855 /POST26,
856 NSOL,2,(NODE(0.0,0.0,0.0)),TEMP,,peakclad,
857 STORE,NEW,
858 *GET,TMTMAX,VARI,2,EXTREM,TMAX,

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859 FINISH
860 /POST1,
861 /COM,          Create temperature contour plots of WP at peak
862 /RESET
863 /TRIAD,OFF,
864 /NUM, 1,
865 /PNUM,MAT, 1,
866 /TYPE,HIDP,
867 /GLINE,, -1,
868 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
869 ESEL,U,MAT,,7,
870 SET,NEAR,,,,TMTMAX,
871 /TITLE, 21 PWR UCF/WP at Time of Peak Temp. (%TMTMAX/3.15576E7% years)
872 /SHOW,solupk,grph,0,8,
873 /CONTOUR,1,128,AUTO,
874 PLNSOL,TEMP,
875 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
876 SET,NEAR,,,,TME10,
877 /TITLE, 21 PWR UCF/WP at 10 years
878 /SHOW,solu10,grph,0,8,
879 /CONTOUR,1,128,USER,
880 PLNSOL,TEMP,
881 SET,NEAR,,,,TME50,
882 /TITLE, 21 PWR UCF/WP at 50 years
883 /SHOW,solu50,grph,0,8,
884 /CONTOUR,1,128,USER,
885 PLNSOL,TEMP,
886 SET,NEAR,,,,TME100,
887 /TITLE, 21 PWR UCF/WP at 100 years
888 /SHOW,solu100,grph,0,8,
889 /CONTOUR,1,128,USER,
890 PLNSOL,TEMP,
891 ESEL,ALL,
892 FINISH
893 /COM,          *****
894 /COM,          Print time/temperature output at specific locations
895 /COM,          Save profile from center to edge
896 /COM,
897 /COM,          Variable Legend: A01i000
898 /COM,          c = center of assembly
899 /COM,          h = halfway between center and tube
900 /COM,          s = inside structural stainless tube layer
901 /COM,          t = stainless tube cladding
902 /COM,          g = tube guide
903 /COM,          i = inner barrier of DC
904 /COM,          o = outer barrier of DC
905 /COM,          ## = ID number of assembly (01 is center)
906 /COM,          i = side of assembly toward center of WP
907 /COM,          o = side of assembly toward edge of WP
908 /COM,          000 = profile center down
909 /COM,          045 = profile 45 deg down
910 /COM,          090 = profile center side
911 /COM,          135 = profile 45 deg up
912 /COM,          180 = profile center up
913 /POST26,
914 NUMVAR,30,
915 /COM,
916 /COM,          *****
917 /COM,          * Temperature Profile from center to bottom of WP (0 deg.) *
918 /COM,          *****
919 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,c01i000,
920 NSOL, 3,(NODE(0.0, (0.0-QCELL),0.0)),TEMP,,h01o000,
921 NSOL, 4,(NODE(0.0, (0.0-HCELL),0.0)),TEMP,,s01o000,
922 NSOL, 5,(NODE(0.0, (0.0-SCELL),0.0)),TEMP,,t01o000,
923 NSOL, 6,(NODE(0.0, (0.0-SCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o000,
924 NSOL, 7,(NODE(0.0, (SCELL-(PITCH+TWALL)),0.0)),TEMP,,t06i000,
925 NSOL, 8,(NODE(0.0, (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s06i000,
926 NSOL, 9,(NODE(0.0, (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h06i000,
927 NSOL,10,(NODE(0.0, ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c06i000,
928 NSOL,11,(NODE(0.0,((-1.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h06o000,

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929 NSOL,12,(NODE(0.0,((-1.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s06o000,
930 NSOL,13,(NODE(0.0, (SCCELL-2.0*PITCH-TWALL),0.0)),TEMP,,t13i000,
931 NSOL,14,(NODE(0.0, (HCELL-2.0*PITCH-TWALL),0.0)),TEMP,,s13i000,
932 NSOL,15,(NODE(0.0, (QCELL-2.0*PITCH-TWALL),0.0)),TEMP,,h13i000,
933 NSOL,16,(NODE(0.0, (-2.0*PITCH-TWALL),0.0)),TEMP,,c13i000,
934 NSOL,17,(NODE(0.0,((-2.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h13o000,
935 NSOL,18,(NODE(0.0,((-2.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s13o000,
936 NSOL,19,(NODE(0.0,((-2.0*PITCH)-TWALL-SCCELL),0.0)),TEMP,,t13o000,
937 NSOL,20,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i13i000,
938 NSOL,21,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i13o000,
939 NSOL,22,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o13o000,
940 PRVAR, 2, 3, 4, 5, 6, 7,
941 PRVAR, 8, 9,10,11,12,13,
942 PRVAR,14,15,16,17,18,19,
943 PRVAR,20,21,22,
944 /COM,
945 /COM,
946 /COM, * Temperature Profile from center to lower right (45 deg.) *
947 /COM, *****
948 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,c01i045,
949 NSOL, 3,(NODE( QCELL, (0.0-QCELL),0.0)),TEMP,,h01o045,
950 NSOL, 4,(NODE( HCELL, (0.0-HCELL),0.0)),TEMP,,s01o045,
951 NSOL, 5,(NODE( SCCELL, (0.0-SCCELL),0.0)),TEMP,,t01o045,
952 NSOL, 6,(NODE( (SCCELL+0.5*TWALL),(0.0-SCCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o045,
953 NSOL, 7,(NODE((PITCH+TWALL-SCCELL), (SCCELL-(PITCH+TWALL)),0.0)),TEMP,,t08i045,
954 NSOL, 8,(NODE((PITCH+TWALL-HCELL), (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s08i045,
955 NSOL, 9,(NODE((PITCH+TWALL-QCELL), (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h08i045,
956 NSOL,10,(NODE( (1.0*PITCH+TWALL), ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c08i045,
957 NSOL,11,(NODE((PITCH+TWALL+QCELL),(0.0-PITCH-TWALL-QCELL),0.0)),TEMP,,h08o045,
958 NSOL,12,(NODE((PITCH+TWALL+HCELL),(0.0-PITCH-TWALL-HCELL),0.0)),TEMP,,s08o045,
959 NSOL,13,(NODE( GX24, (0.0-GX24),0.0)),TEMP,,g08i045,
960 NSOL,14,(NODE( GX25, (0.0-GX25),0.0)),TEMP,,g08o045,
961 NSOL,15,(NODE( DI45, (-1.0*DI45),0.0)),TEMP,,i08i045,
962 NSOL,16,(NODE( DM45, (-1.0*DM45),0.0)),TEMP,,i08o045,
963 NSOL,17,(NODE( DO45, (-1.0*DO45),0.0)),TEMP,,o08o045,
964 /COM, Add centers of assemblies 11 and 12
965 NSOL,18,(NODE( (2.0*PITCH+TWALL), (-1.0*PITCH-TWALL),0.0)),TEMP,,c11i045,
966 NSOL,19,(NODE( (PITCH+TWALL), (-2.0*PITCH-TWALL),0.0)),TEMP,,c12i045,
967 PRVAR, 2, 3, 4, 5, 6, 7,
968 PRVAR, 8, 9,10,11,12,13,
969 PRVAR,14,15,16,17,18,19,
970 /COM,
971 /COM, *****
972 /COM, * Temperature Profile from center to side of WP (90 deg.) *
973 /COM, *****
974 NSOL, 2,(NODE( 0.0,0.0,0.0)),TEMP,,c01i090,
975 NSOL, 3,(NODE( QCELL,0.0,0.0)),TEMP,,h01o090,
976 NSOL, 4,(NODE( HCELL,0.0,0.0)),TEMP,,s01o090,
977 NSOL, 5,(NODE( SCCELL,0.0,0.0)),TEMP,,t01o090,
978 NSOL, 6,(NODE( (SCCELL+0.5*TWALL),0.0,0.0)),TEMP,,ts1o090,
979 NSOL, 7,(NODE( (PITCH+TWALL-SCCELL),0.0,0.0)),TEMP,,t02i090,
980 NSOL, 8,(NODE( (PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s02i090,
981 NSOL, 9,(NODE( (PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h02i090,
982 NSOL,10,(NODE( (PITCH+TWALL),0.0,0.0)),TEMP,,c02i090,
983 NSOL,11,(NODE( (PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h02o090,
984 NSOL,12,(NODE( (PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s02o090,
985 NSOL,13,(NODE( (PITCH+TWALL+SCCELL),0.0,0.0)),TEMP,,t02i090,
986 NSOL,14,(NODE((2.0*PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s04i090,
987 NSOL,15,(NODE((2.0*PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h04i090,
988 NSOL,16,(NODE( (2.0*PITCH+TWALL),0.0,0.0)),TEMP,,c04i090,
989 NSOL,17,(NODE((2.0*PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h04o090,
990 NSOL,18,(NODE((2.0*PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s04o090,
991 NSOL,19,(NODE((2.0*PITCH+TWALL+SCCELL),0.0,0.0)),TEMP,,t04o090,
992 NSOL,20,(NODE( (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
993 NSOL,21,(NODE( (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
994 NSOL,22,(NODE( DCRAD,0.0,0.0)),TEMP,,o04o090,
995 PRVAR, 2, 3, 4, 5, 6, 7,
996 PRVAR, 8, 9,10,11,12,13,
997 PRVAR,14,15,16,17,18,19,
998 PRVAR,20,21,22,

```

```

999 /COM,
1000 /COM, *****
1001 /COM, * Temperature Profile from center to upper right (135 deg.) *
1002 /COM, *****
1003 NSOL, 2, (NODE( 0.0, 0.0, 0.0)), TEMP, ,c01i135,
1004 NSOL, 3, (NODE( QCELL, QCELL, 0.0)), TEMP, ,h01o135,
1005 NSOL, 4, (NODE( HCELL, HCELL, 0.0)), TEMP, ,s01o135,
1006 NSOL, 5, (NODE( SCELL, SCELL, 0.0)), TEMP, ,t01o135,
1007 NSOL, 6, (NODE( (SCELL+0.5*TWALL), (SCELL+0.5*TWALL), 0.0)), TEMP, ,ts1o135,
1008 NSOL, 7, (NODE( (PITCH+TWALL-SCELL), (PITCH+TWALL-SCELL), 0.0)), TEMP, ,t07i135,
1009 NSOL, 8, (NODE( (PITCH+TWALL-HCELL), (PITCH+TWALL-HCELL), 0.0)), TEMP, ,s07i135,
1010 NSOL, 9, (NODE( (PITCH+TWALL-QCELL), (PITCH+TWALL-QCELL), 0.0)), TEMP, ,h07i135,
1011 NSOL, 10, (NODE( (PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c07i135,
1012 NSOL, 11, (NODE( (PITCH+TWALL+QCELL), (PITCH+TWALL+QCELL), 0.0)), TEMP, ,h07o135,
1013 NSOL, 12, (NODE( (PITCH+TWALL+HCELL), (PITCH+TWALL+HCELL), 0.0)), TEMP, ,s07o135,
1014 NSOL, 13, (NODE( GX24, GX24, 0.0)), TEMP, ,g07i135,
1015 NSOL, 14, (NODE( GX25, GX25, 0.0)), TEMP, ,g07o135,
1016 NSOL, 15, (NODE( DI45, DI45, 0.0)), TEMP, ,i07i135,
1017 NSOL, 16, (NODE( DM45, DM45, 0.0)), TEMP, ,i07o135,
1018 NSOL, 17, (NODE( DO45, DO45, 0.0)), TEMP, ,o07o135,
1019 /COM, Add centers of assemblies 9 and 10
1020 NSOL, 18, (NODE( (2.0*PITCH+TWALL), (PITCH+TWALL), 0.0)), TEMP, ,c09i135,
1021 NSOL, 19, (NODE( (PITCH+TWALL), (2.0*PITCH+TWALL), 0.0)), TEMP, ,c10i135,
1022 PRVAR, 2, 3, 4, 5, 6, 7,
1023 PRVAR, 8, 9, 10, 11, 12, 13,
1024 PRVAR, 14, 15, 16, 17, 18, 19,
1025 /COM,
1026 /COM, *****
1027 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1028 /COM, *****
1029 NSOL, 2, (NODE(0.0, 0.0, 0.0)), TEMP, ,c01i180,
1030 NSOL, 3, (NODE(0.0, QCELL, 0.0)), TEMP, ,h01o180,
1031 NSOL, 4, (NODE(0.0, HCELL, 0.0)), TEMP, ,s01o180,
1032 NSOL, 5, (NODE(0.0, SCELL, 0.0)), TEMP, ,t01o180,
1033 NSOL, 6, (NODE(0.0, (SCELL+0.5*TWALL), 0.0)), TEMP, ,ts5i180,
1034 NSOL, 7, (NODE(0.0, (PITCH+TWALL-SCELL), 0.0)), TEMP, ,t05i180,
1035 NSOL, 8, (NODE(0.0, (PITCH+TWALL-HCELL), 0.0)), TEMP, ,s05i180,
1036 NSOL, 9, (NODE(0.0, (PITCH+TWALL-QCELL), 0.0)), TEMP, ,h05i180,
1037 NSOL, 10, (NODE(0.0, (PITCH+TWALL), 0.0)), TEMP, ,c05i180,
1038 NSOL, 11, (NODE(0.0, (PITCH+TWALL+QCELL), 0.0)), TEMP, ,h05o180,
1039 NSOL, 12, (NODE(0.0, (PITCH+TWALL+HCELL), 0.0)), TEMP, ,s05o180,
1040 NSOL, 13, (NODE(0.0, (PITCH+TWALL+SCELL), 0.0)), TEMP, ,t05i180,
1041 NSOL, 14, (NODE(0.0, (2.0*PITCH+TWALL-HCELL), 0.0)), TEMP, ,s03i180,
1042 NSOL, 15, (NODE(0.0, (2.0*PITCH+TWALL-QCELL), 0.0)), TEMP, ,h03i180,
1043 NSOL, 16, (NODE(0.0, (2.0*PITCH+TWALL), 0.0)), TEMP, ,c03i180,
1044 NSOL, 17, (NODE(0.0, (2.0*PITCH+TWALL+QCELL), 0.0)), TEMP, ,h03o180,
1045 NSOL, 18, (NODE(0.0, (2.0*PITCH+TWALL+HCELL), 0.0)), TEMP, ,s03o180,
1046 NSOL, 19, (NODE(0.0, (2.0*PITCH+TWALL+SCELL), 0.0)), TEMP, ,t03o180,
1047 NSOL, 20, (NODE(0.0, (DCRAD-OWALL-IWALL), 0.0)), TEMP, ,i03i180,
1048 NSOL, 21, (NODE(0.0, (DCRAD-OWALL), 0.0)), TEMP, ,i03o180,
1049 NSOL, 22, (NODE(0.0, (DCRAD, 0.0)), TEMP, ,o03o180,
1050 PRVAR, 2, 3, 4, 5, 6, 7,
1051 PRVAR, 8, 9, 10, 11, 12, 13,
1052 PRVAR, 14, 15, 16, 17, 18, 19,
1053 PRVAR, 20, 21, 22,
1054 FINISH
1055 /COM, *****
1056 /COM, End of batch input file
1057 /COM, *****
1058 /EXIT,
1059 /EOF

```

RUN SETUP PROCEDURE FROM FILE= /ansys50a/docu/start.ans

```

/INPUT FILE= /ansys50a/docu/start.ans LINE= 0
*****
ANSYS STARTUP FILE start.ans
*****

```

ABBREVIATION= K1 /pnum, kp ,1,

```

ABBREVIATION= K0      /pnum,kp ,0,
ABBREVIATION= L1      /pnum,line,1,
ABBREVIATION= L0      /pnum,line,0,
ABBREVIATION= A1      /pnum,area,1,
ABBREVIATION= A0      /pnum,area,0,
ABBREVIATION= V1      /pnum,volu,1,
ABBREVIATION= V0      /pnum,volu,0,
ABBREVIATION= N1      /pnum,node,1,
ABBREVIATION= N0      /pnum,node,0,
ABBREVIATION= E1      /pnum,elem,1,
ABBREVIATION= E0      /pnum,elem,0,
ABBREVIATION= M1      /pnum,mat ,1,
ABBREVIATION= M0      /pnum,mat ,0,
ABBREVIATION= R1      /pnum,real,1,
ABBREVIATION= R0      /pnum,real,0,
ABBREVIATION= T1      /pnum,type,1,
ABBREVIATION= T0      /pnum,type,0,
ABBREVIATION= C1      /number,1,
ABBREVIATION= C0      /number,0,
ABBREVIATION= INP      /input,,inp,
ABBREVIATION= X3D      /show,3d,
ABBREVIATION= X11      /show,x11,
ABBREVIATION= VEC      /show,,,1,
ABBREVIATION= RAS      /show,,,0,
ABBREVIATION= ON       /menu,on,
ABBREVIATION= OFF      /menu,off,
ABBREVIATION= NVP      /config,nvpag,512,
ABBREVIATION= QUIT     /exit,nosav,
XYZ TRIAD DISPLAY SET TO OFF

```

VIEW CONE ANGLE FOR WINDOW 1 25.00

```

*****
END start.ans
*****

```

To start ANSYS menu:

```

type:  x3d  for console
       x11  for X-term

```

```

type:  on

```


ANSYS REVISION 5.0A 6/10/1995
2-D Model of 125 ton burnup credit UCF-DC Thomas L. Lotz

* * *

* File name: ucf21h.inp * *

* 21 PWR UCF with Low T.L. Disposal Container * *

* Helium Fill Gas * *

* * *

* Material Property file: props01.dat * *

* * *

* SNF Conductivity file: pwr15e.parm * *

* 15x15 Mark-B4 PWR SNF Assembly * *

* * *

* SNF Heat Loads file: snf1048.dat * *

* SNF Type: 10 years old, 48086 MWd/MTU * *

* * *

* Surface Temp. file: c21h5a.parm * *

* 25 MTU/acre (6.18 kgU/m²) AML (Low Thermal Loading) * *

* 5.0 m Diameter Drift with Concrete Invert * *

* Drift spacing = 90.0 m * *

* WP c/c spacing = 16.165 m * *

* * *

Increase the number of database pages from 16 (256) to 32 Mb

NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512

Work space must also be increased (-m 64)

TITLE=

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SI UNITS SPECIFIED

LENGTH = METERS(M)

MASS = KILOGRAMS(KG)

TIME = SECONDS(SEC)

TEMPERATURE = CENTIGRADE

CURRENT = AMPS

Read in average effective conductivities from SNF model

*** NOTE *** CP= .660 TIME= 04:15:26

Restore ANSYS parameters from file= pwr15e.parm.

/INPUT FILE= pwr15e.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Read in surface temps. from repository model

*** NOTE *** CP= .880 TIME= 04:15:27

Restore ANSYS parameters from file= c21h5a.parm.

/INPUT FILE= c21h5a.parm LINE= 0

PRINTOUT RESUMED BY /GOP

Define Required Constants:

PARAMETER PI = 3.141593

Define UCF/waste package parameters

(UCF dimensions converted from inches/cm/mm to meters were requi

MIRAD = inner radius of UCF He Backfill shell (m) (NOT

MWALL = UCF He Backfill shell thickness (m) (NOT

DCRAD = disposal container outer radius (m)

OWALL = outer barrier thickness (m)

IWALL = inner barrier thickness (m)
 DCIRD = disposal container inner radius (m)

 GCORN = corner guide width (m)
 GWALL = basket guide thickness (m)
 GLEN1 = side guide 1/3 width (m) (NOT USED)
 GLENT = side guide total width (m) (NOT USED)

 HCELL = 1/2 of basket cell opening (m)
 SWALL = stainless tube thickness (m)
 TWALL = Aluminum thermal shunt thickness (m)
 AWALL = Al/boron tube thickness (m) (NOT USED)

 ACTVL = active fuel length
 PEAKF = assembly heat axial peaking factor

MIRAD=1363.6/1000.0/2.0
 MWALL=1.0000*2.54/100.0

PARAMETER DCRAD = .7645000
 PARAMETER OWALL = .5000000E-01
 PARAMETER IWALL = .2000000E-01
 PARAMETER DCIRD = .6945000

 PARAMETER GCORN = .2335000
 PARAMETER GWALL = .9500000E-02
 GLEN1=9.6170*2.54/100.0
 GLENT=28.866*2.54/100.0

PARAMETER HCELL = .1117500
 PARAMETER SWALL = .5000000E-02
 PARAMETER TWALL = .1000000E-01
 AWALL=0.2500*2.54/100.0

PARAMETER ACTVL = 3.601720

PARAMETER PEAKF = 1.250000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)
 FUEL = volumetric heat production (W/m3) f(yrs)
 FVOLL = assy_volume=cell_width^2*active_length

PITCH = basket cell outer width (m)
 QCELL = 1/4 of basket cell opening (m)
 SCELL = 1/2 of basket cell opening+SS wall(m)
 ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)

GX## = x coord. of basket guide or thermal shunt/shell c
 GY## = y coord. of basket guide or thermal shunt/shell c

MI45 = x coord. MIRAD at 45 deg. (NOT USED)
 MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
 DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
 DM45 = x coord. DCRAD-OWALL at 45 deg.
 DO45 = x coord. DCRAD at 45 deg.

ARRAY PARAMETER ASSY DELETED.

SET PARAMETER DIMENSIONS ON ASSY TYPE=TABL DIMENSIONS= 101 1 1

SET PARAMETER DIMENSIONS ON FUEL TYPE=TABL DIMENSIONS= 101 1 1

PARAMETER FVOLUME = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500
ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .1167500

PARAMETER GY22 = .6846165

PARAMETER GX23 = .1267500

PARAMETER GY23 = .6828358

PARAMETER GX24 = .3602500

PARAMETER GY24 = .5937594

PARAMETER GX25 = .3697500

PARAMETER GY25 = .5878905

MI45=MIRAD/SQRT(2.0)
MO45=(MIRAD+MWALL)/SQRT(2.0)

PARAMETER DI45 = .4910857

PARAMETER DM45 = .5052278

PARAMETER DO45 = .5405831

Define Transient Time parameters based upon the following:

Note: 1 year = 3.15576e7 seconds

TM_START = start time (sec)

TMI* = time increment for solution (sec)

TME* = start and stop for time do-loops (sec)

TMTMAX = time of maximum cladding temperature

PARAMETER TM_START = 31.55760

PARAMETER TMI0 = 3155760.

PARAMETER TMI1 = .3155760E+08

PARAMETER TMI10 = .3155760E+09

PARAMETER TMI100 = .3155760E+10

PARAMETER TMI1000 = .3155760E+11

PARAMETER TME0 = .2840187E+08

PARAMETER TME1 = .3155763E+08

PARAMETER TME9 = .2840184E+09

PARAMETER TME10 = .3155760E+09

PARAMETER TME50 = .1577880E+10

PARAMETER TME90 = .2840184E+10

PARAMETER TME100 = .3155760E+10

PARAMETER TME1000 = .3155760E+11

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:15:28 JUN 12, 1995 CP= 1.800
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE 1 IS PLANE55 2-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
TWO-DIMENSIONAL MODEL

ELEMENT TYPE 2 IS SOLID70 3-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 7 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 16 IS SHELL57 THERMAL SHELL
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 17 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 18 IS MATRI)50 SUBSTRUCTURE MATRIX
KEYOPT(1-12)= 1 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 19 IS LINK31 RADIATION LINK
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 27 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

File props01.dat describes material properties
and thier reference numbers

READ IN MATERIAL PROPERTY LIBRARY FROM FILE= props01.dat

```

/INPUT FILE= props01.dat LINE=      0
*****
**      ANSYS 5.0 MPC MATERIAL PROPERTY TABLES      **
*****
**      Filename: props01.dat                        **
**      Compiled by R. Bahney III on 1-30-95          **
*****

```

NUMBER	MATERIAL	DESCRIPTION
1	Stainless Steel 316	Basket Structural Support
2	Incaloy 825	Inner Container (resistant)
3	A516 Mild Steel	Outer Container (allowance)
4	UO2 Pellet	SNF Uranium Oxide Pellet
5	Zircaloy 4	SNF Cladding
6	Oxidation Layer	Stably Oxidized Zircaloy Surface
7	Helium	Canister Fill Gas
8	Air	Alternate Fill Gas
9	Nitrogen	Alternate Fill Gas
10	Argon	Alternate Fill Gas
11	Aluminum 6063	Thermal Conductor
12	Copper	Alternate Thermal Conductor
13	Aluminum-Boron	Aluminum Boron Criticality Matl

```

*****
**      Density:      DENS      (kg/m^3)      **
**      Emissivity    EMIS      **
**      Conductivity: KXX      (W/m/K)      **
**      Specific Heat: C      (J/kg/K)      **
*****

```

Define densities for all materials except gases

TEMPERATURE TABLE ERASED.

```

*** PROPERTY TEMPERATURE TABLE      NUM. TEMPS= 1 ***
SLOC= 1      .0000000E+00

```

```

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
SLOC= 1      8000.000

```

```

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
SLOC= 1      8137.900

```

```

PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
SLOC= 1      8131.000

```

```

PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
SLOC= 1      10970.00

```

```

PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
SLOC= 1      6500.000

```

```

PROPERTY TABLE DENS MAT= 6 NUM. POINTS= 1
SLOC= 1      6500.000

```

```

PROPERTY TABLE DENS MAT= 11 NUM. POINTS= 1
SLOC= 1      2690.000

```

```

PROPERTY TABLE DENS MAT= 12 NUM. POINTS= 1
SLOC= 1      8933.000

```

```

PROPERTY TABLE DENS MAT= 13 NUM. POINTS= 1
SLOC= 1      2693.000

```

Define emissivities for all materials except gases

```

PROPERTY TABLE EMIS MAT= 1 NUM. POINTS= 1
SLOC= 1      .6000000

```

PROPERTY TABLE EMIS MAT= 2 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 3 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 4 NUM. POINTS= 1
SLOC= 1 .7900000

PROPERTY TABLE EMIS MAT= 5 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 6 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 11 NUM. POINTS= 1
SLOC= 1 .7000000E-01

PROPERTY TABLE EMIS MAT= 12 NUM. POINTS= 1
SLOC= 1 .5000000

PROPERTY TABLE EMIS MAT= 13 NUM. POINTS= 1
SLOC= 1 .7000000E-01

Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15

PROPERTY TABLE C MAT= 4 NUM. POINTS= 1
SLOC= 1 247.0000

PROPERTY TABLE C MAT= 5 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 6 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 7 NUM. POINTS= 1
SLOC= 1 5193.000

PROPERTY TABLE C MAT= 11 NUM. POINTS= 1
SLOC= 1 900.0000

Define K and C for materials 1, 3

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 21.11000 37.78000 65.56000
93.33000 121.1100 148.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 176.6700 204.4400 232.2200
260.0000 287.7800 315.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 343.3300 371.1100 398.8900
426.6700 454.4400 482.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
SLOC= 19 510.0000 537.7800 565.5600
593.3300 621.1100 648.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
SLOC= 25 676.6700 704.4400 732.2200
760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 6
SLOC= 1 13.33000 13.67000 14.19000 14.54000
15.06000 15.58000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 12

SLOC= 7	15.92000 17.83000	16.44000 18.17000	16.96000	17.31000
PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 18				
SLOC= 13	18.52000 20.25000	19.04000 20.77000	19.38000	19.90000
PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 24				
SLOC= 19	21.11000 22.67000	21.46000 23.02000	21.98000	22.33000
PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 30				
SLOC= 25	23.54000 24.92000	23.88000 25.27000	24.23000	24.58000
PROPERTY TABLE C MAT= 1 NUM. POINTS= 6				
SLOC= 1	481.6800 509.9800	486.9200 520.2900	498.0900	499.3800
PROPERTY TABLE C MAT= 1 NUM. POINTS= 12				
SLOC= 7	521.0700 543.0200	527.3800 543.3100	536.9200	537.3400
PROPERTY TABLE C MAT= 1 NUM. POINTS= 18				
SLOC= 13	546.9100 557.2500	552.1400 565.1100	552.2600	557.2200
PROPERTY TABLE C MAT= 1 NUM. POINTS= 24				
SLOC= 19	565.0100 574.9200	564.9100 574.6800	572.3500	572.1400
PROPERTY TABLE C MAT= 1 NUM. POINTS= 30				
SLOC= 25	581.6400 585.9600	581.3000 588.3900	583.8600	586.3600
PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 6				
SLOC= 1	40.84000 42.23000	41.36000 42.23000	41.88000	42.23000
PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 12				
SLOC= 7	42.06000 40.50000	41.88000 39.98000	41.36000	41.02000
PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 18				
SLOC= 13	39.29000 36.69000	38.77000 36.17000	38.08000	37.56000
PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 24				
SLOC= 19	35.48000 32.36000	34.61000 31.50000	33.92000	33.23000
PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 30				
SLOC= 25	30.29000 26.13000	28.90000 26.13000	27.35000	26.48000
PROPERTY TABLE C MAT= 3 NUM. POINTS= 6				
SLOC= 1	428.7200 486.0800	444.9500 495.6600	460.9400	476.8700
PROPERTY TABLE C MAT= 3 NUM. POINTS= 12				
SLOC= 7	506.0900 543.6300	517.0700 550.6200	525.6400	536.9900
PROPERTY TABLE C MAT= 3 NUM. POINTS= 18				
SLOC= 13	562.2100 611.3500	577.3200 629.0900	589.1000	600.5700
PROPERTY TABLE C MAT= 3 NUM. POINTS= 24				
SLOC= 19	645.3200 724.0700	665.1200 761.9500	682.0700	694.5200

PROPERTY TABLE C MAT= 3 NUM. POINTS= 30
 SLOC= 25 806.3100 888.6000 1095.040 1638.780
 808.6800 736.9000

Define K for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800 565.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 593.3300 621.1100 648.8900
 676.6700 704.4400 732.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 27 ***
 SLOC= 25 760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 6
 SLOC= 1 12.29000 12.63000 13.15000 13.67000
 14.02000 14.54000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 12
 SLOC= 7 14.88000 15.40000 15.75000 16.10000
 16.61000 16.96000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 18
 SLOC= 13 17.31000 17.65000 18.00000 18.52000
 18.86000 19.21000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 24
 SLOC= 19 19.73000 20.08000 20.42000 20.94000
 21.46000 21.98000

PROPERTY TABLE KXX MAT= 2 NUM. POINTS= 27
 SLOC= 25 22.33000 23.02000 23.54000

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 17 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800

PROPERTY TABLE C MAT= 2 NUM. POINTS= 6
 SLOC= 1 460.6900 477.4200 501.0200 504.6500
 498.1200 520.4500

PROPERTY TABLE C MAT= 2 NUM. POINTS= 12
 SLOC= 7 536.8800 559.8500 576.8300 576.2100

581.6800 598.2000

PROPERTY TABLE C MAT= 2 NUM. POINTS= 17
 SLOC= 13 619.5800 636.7600 654.2000 678.2500
 696.2900

Define K for materials 4, 5, 6

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 .0000000E+00 10.00000 20.00000
 30.00000 40.00000 50.00000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 60.00000 70.00000 80.00000
 90.00000 100.0000 110.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 120.0000 130.0000 140.0000
 150.0000 160.0000 170.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 180.0000 190.0000 200.0000
 210.0000 220.0000 230.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
 SLOC= 25 240.0000 250.0000 260.0000
 270.0000 280.0000 290.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 36 ***
 SLOC= 31 300.0000 310.0000 320.0000
 330.0000 340.0000 350.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 42 ***
 SLOC= 37 360.0000 370.0000 380.0000
 390.0000 400.0000 410.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 48 ***
 SLOC= 43 420.0000 430.0000 440.0000
 450.0000 460.0000 470.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 50 ***
 SLOC= 48 480.0000 490.0000 500.0000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 6
 SLOC= 1 8.720000 8.540000 8.360000 8.190000
 8.030000 7.870000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 12
 SLOC= 7 7.720000 7.580000 7.440000 7.310000
 7.180000 7.050000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 18
 SLOC= 13 6.930000 6.820000 6.700000 6.600000
 6.490000 6.390000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 24
 SLOC= 19 6.290000 6.190000 6.100000 6.010000
 5.920000 5.840000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 30
 SLOC= 25 5.760000 5.680000 5.600000 5.520000
 5.450000 5.380000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 36
 SLOC= 31 5.310000 5.240000 5.180000 5.110000
 5.050000 4.990000

PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 42	
SLOC= 37	4.930000	4.870000	4.810000
	4.700000	4.650000	4.760000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 48	
SLOC= 43	4.600000	4.550000	4.500000
	4.400000	4.350000	4.450000
PROPERTY TABLE KXX MAT=	4	NUM. POINTS= 50	
SLOC= 48	4.310000	4.270000	4.220000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 6	
SLOC= 1	12.29000	12.44000	12.58000
	12.87000	13.01000	12.72000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 12	
SLOC= 7	13.15000	13.28000	13.42000
	13.69000	13.82000	13.55000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 18	
SLOC= 13	13.95000	14.08000	14.21000
	14.46000	14.59000	14.34000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 24	
SLOC= 19	14.72000	14.84000	14.96000
	15.21000	15.33000	15.09000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 30	
SLOC= 25	15.45000	15.57000	15.69000
	15.93000	16.05000	15.81000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 36	
SLOC= 31	16.17000	16.29000	16.40000
	16.64000	16.76000	16.52000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 42	
SLOC= 37	16.88000	16.99000	17.11000
	17.35000	17.46000	17.23000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 48	
SLOC= 43	17.58000	17.70000	17.82000
	18.06000	18.18000	17.94000
PROPERTY TABLE KXX MAT=	5	NUM. POINTS= 50	
SLOC= 48	18.30000	18.42000	18.54000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 6	
SLOC= 1	1.940000	1.940000	1.940000
	1.940000	1.940000	1.940000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 12	
SLOC= 7	1.940000	1.950000	1.950000
	1.950000	1.950000	1.950000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 18	
SLOC= 13	1.950000	1.950000	1.960000
	1.960000	1.960000	1.960000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 24	
SLOC= 19	1.960000	1.970000	1.970000
	1.970000	1.980000	1.970000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 30	
SLOC= 25	1.980000	1.980000	1.980000
	1.990000	1.990000	1.990000
PROPERTY TABLE KXX MAT=	6	NUM. POINTS= 36	
SLOC= 31	2.000000	2.000000	2.000000
	2.010000	2.010000	2.010000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 42
 SLOC= 37 2.020000 2.020000 2.020000 2.030000
 2.030000 2.030000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.040000 2.050000
 2.050000 2.060000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 50
 SLOC= 48 2.060000 2.060000 2.070000

Define p, K, C for materials 7, 8, 9, -10

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -13.15000 6.850000 26.85000
 76.85000 126.8500 176.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 226.8500 276.8500 326.8500
 376.8500 426.8500 476.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 15 ***
 SLOC= 13 526.8500 626.8500 726.8500

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1875000 .1750000 .1625000 .1422000
 .1219000 .1097000

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 12
 SLOC= 7 .9750000E-01 .9060000E-01 .8360000E-01 .7670000E-01
 .6970000E-01 .6620000E-01

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 15
 SLOC= 13 .6270000E-01 .5580000E-01 .4880000E-01

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1370000 .1450000 .1520000 .1700000
 .1870000 .2040000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 12
 SLOC= 7 .2200000 .2360000 .2520000 .2640000
 .2780000 .2910000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 15
 SLOC= 13 .3040000 .3300000 .3540000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 6
 SLOC= 1 1.348000 1.254700 1.161400 .9950000
 .8711000 .7740000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 12
 SLOC= 7 .6964000 .6329000 .5804000 .5356000
 .4975000 .4643000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 15
 SLOC= 13 .4354000 .3868000 .3482000

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2500000E-01 .2600000E-01 .3000000E-01
 .3400000E-01 .3700000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12
 SLOC= 7 .4100000E-01 .4400000E-01 .4700000E-01 .5000000E-01
 .5200000E-01 .5500000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 15
 SLOC= 13 .5700000E-01 .6200000E-01 .6700000E-01

PROPERTY TABLE C MAT= 8 NUM. POINTS= 6				
SLOC= 1	1006.200	1006.600	1007.000	1009.000
	1014.000	1021.000		
PROPERTY TABLE C MAT= 8 NUM. POINTS= 12				
SLOC= 7	1030.000	1040.000	1051.000	1063.000
	1075.000	1087.000		
PROPERTY TABLE C MAT= 8 NUM. POINTS= 15				
SLOC= 13	1099.000	1121.000	1141.000	
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 6				
SLOC= 1	1.303700	1.213500	1.123300	.9625000
	.8425000	.7485000		
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12				
SLOC= 7	.6739000	.6124000	.5615000	.5214000
	.4812000	.4512000		
PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 15				
SLOC= 13	.4211000	.3743000	.3368000	
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 6				
SLOC= 1	.2300000E-01	.2400000E-01	.2600000E-01	.2900000E-01
	.3300000E-01	.3600000E-01		
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12				
SLOC= 7	.3900000E-01	.4200000E-01	.4500000E-01	.4700000E-01
	.5000000E-01	.5200000E-01		
PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 15				
SLOC= 13	.5500000E-01	.6000000E-01	.6500000E-01	
PROPERTY TABLE C MAT= 9 NUM. POINTS= 6				
SLOC= 1	1041.800	1041.400	1041.000	1042.000
	1045.000	1050.000		
PROPERTY TABLE C MAT= 9 NUM. POINTS= 12				
SLOC= 7	1056.000	1065.000	1075.000	1086.500
	1098.000	1159.000		
PROPERTY TABLE C MAT= 9 NUM. POINTS= 15				
SLOC= 13	1220.000	1146.000	1167.000	
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 6				
SLOC= 1	.1700000E-01	.1700000E-01	.1800000E-01	.2100000E-01
	.2300000E-01	.2500000E-01		
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12				
SLOC= 7	.2700000E-01	.2800000E-01	.3000000E-01	.3200000E-01
	.3400000E-01	.3600000E-01		
PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 15				
SLOC= 13	.3700000E-01	.4100000E-01	.4400000E-01	

Define K and C for material 12

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC= 1	-73.15000	26.85000	126.8500
	326.8500	526.8500	726.8500

PROPERTY TABLE KXX MAT= 12 NUM. POINTS= 6				
SLOC= 1	413.0000	401.0000	393.0000	379.0000
	366.0000	352.0000		

PROPERTY TABLE C MAT= 12 NUM. POINTS= 6				
SLOC= 1	356.0000	385.0000	397.0000	417.0000

433.0000 451.0000

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***
 SLOC= 1 23.00000 50.00000 100.0000
 150.0000 200.0000

PROPERTY TABLE KXX MAT= 13 NUM. POINTS= 5
 SLOC= 1 182.5600 190.1700 199.2200 202.9100
 203.7200

PROPERTY TABLE C MAT= 13 NUM. POINTS= 5
 SLOC= 1 868.0000 903.0000 946.0000 976.0000
 998.0000

 ** End of Material Property List **

 Read in single assembly heat loads
 Calculate the volumetric heat generation
 (Assembly time is in years, FUEL is in seconds)

/INPUT FILE= snf1048.dat LINE= 0

 ** History of SNF Assembly Heat Generation Rates **
 ** Output of PHIA, SCSI: B00000000-01717-1200-3000X Rev.00B **
 **
 ** Executable File Name: PHIA00B.EXE **
 ** Output File Name: snf1048.dat **
 ** Execution Date: 02/24/95 **
 ** Start Age (years): 10.0 **
 ** Decay Period (years): 10000 **
 ** Enrichment (percent): 4.20 **
 ** Burnup (MWd/MTU): 48086 **
 ** Assembly Type: PWR **
 ** SNF U Mass (MTU/assy): 0.464 **
 **
 ** ASSY(#,1) is the SNF assembly heat in Watts. **
 ** ASSY(#,0) is the time post emplacement in years. **

PARAMETER ASSY(1,1) =	850.0100	849.6200	849.2300	848.8500
	848.4600	848.0800		
PARAMETER ASSY(7,1) =	847.6900	847.3100	846.9300	846.5400
	846.1600	844.2600		
PARAMETER ASSY(13,1) =	842.3700	840.5000	838.6300	836.7900
	834.9500	833.1300		
PARAMETER ASSY(19,1) =	831.3200	829.5200	827.7400	825.9600
	824.2000	822.4500		
PARAMETER ASSY(25,1) =	820.7200	818.9900	817.2800	815.5700
	813.8800	799.0100		
PARAMETER ASSY(31,1) =	785.0300	772.2000	760.0600	749.0400
	738.5700	729.5500		
PARAMETER ASSY(37,1) =	720.9500	710.2700	700.0700	691.8000
	683.8600	676.0300		
PARAMETER ASSY(43,1) =	668.5000	661.1300	654.0400	648.1900
	642.5500	580.1800		
PARAMETER ASSY(49,1) =	529.8600	484.5200	445.3600	410.5100
	380.7000	352.1900		

PARAMETER ASSY(55,1) =	327.7800 252.6500	305.8800 238.3100	286.2200	268.5700
PARAMETER ASSY(61,1) =	225.3500 185.0400	213.6600 130.6600	203.8500	193.7500
PARAMETER ASSY(67,1) =	105.0700 66.61000	90.10000 61.74000	80.32000	72.66000
PARAMETER ASSY(73,1) =	57.58000 44.98000	53.71000 42.50000	50.41000	47.54000
PARAMETER ASSY(79,1) =	40.31000 33.52000	38.35000 23.16000	36.59000	35.00000
PARAMETER ASSY(85,1) =	18.32000 12.84000	15.77000 12.37000	14.37000	13.53000
PARAMETER ASSY(91,1) =	11.96000 10.32000	11.47000 9.970000	11.04000	10.66000
PARAMETER ASSY(97,1) =	9.650000 8.610000	9.360000	9.090000	8.840000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01 .1000000	.7000000E-01 .1500000	.8000000E-01	.9000000E-01
PARAMETER ASSY(13,0) =	.2000000 .4000000	.2500000 .4500000	.3000000	.3500000
PARAMETER ASSY(19,0) =	.5000000 .7000000	.5500000 .7500000	.6000000	.6500000
PARAMETER ASSY(25,0) =	.8000000 1.000000	.8500000 1.500000	.9000000	.9500000
PARAMETER ASSY(31,0) =	2.000000 4.000000	2.500000 4.500000	3.000000	3.500000
PARAMETER ASSY(37,0) =	5.000000 7.000000	5.500000 7.500000	6.000000	6.500000
PARAMETER ASSY(43,0) =	8.000000 10.00000	8.500000 15.00000	9.000000	9.500000
PARAMETER ASSY(49,0) =	20.00000 40.00000	25.00000 45.00000	30.00000	35.00000
PARAMETER ASSY(55,0) =	50.00000 70.00000	55.00000 75.00000	60.00000	65.00000
PARAMETER ASSY(61,0) =	80.00000 100.0000	85.00000 150.0000	90.00000	95.00000
PARAMETER ASSY(67,0) =	200.0000 400.0000	250.0000 450.0000	300.0000	350.0000
PARAMETER ASSY(73,0) =	500.0000 700.0000	550.0000 750.0000	600.0000	650.0000
PARAMETER ASSY(79,0) =	800.0000 1000.000	850.0000 1500.000	900.0000	950.0000
PARAMETER ASSY(85,0) =	2000.000 4000.000	2500.000 4500.000	3000.000	3500.000

PARAMETER ASSY(91,0) = 5000.000 5500.000 6000.000 6500.000
7000.000 7500.000

PARAMETER ASSY(97,0) = 8000.000 8500.000 9000.000 9500.000
10000.00

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)
INPUT MATRIX= ASSY(1,0)
INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN
FUEL(1) = COPY ASSY(1)
SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000
VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
SLOC= 1 274.0000
Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1
SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2
SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Define new material 15 for low thermal loading
outer barrier of 70/30 Copper Nickel (C71500)
Density: DENS (kg/m³)
Conductivity: KXX (W/m/K)
Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***

SLOC= 1 .0000000E+00
Density (lb/in³ converted to kg/m³)

PROPERTY TABLE DENS MAT= 15 NUM. POINTS= 1

SLOC= 1 8940.640
Specific Heat (Btu/lb/F converted to J/kg/K)

PROPERTY TABLE C MAT= 15 NUM. POINTS= 1

SLOC= 1 376.7898
Conductivity (Btu/hr/ft/F converted to W/m/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***

SLOC= 1 20.00000 100.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 4 ***

SLOC= 3 200.0000 300.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***

SLOC= 5 400.0000 500.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 8 ***

SLOC= 7 600.0000 700.0000

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 2

SLOC= 1 29.42190 29.24883

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 4

SLOC= 3 34.09479 38.59461

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 6

SLOC= 5 43.09443 48.11346

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 8

SLOC= 7 53.13249 58.15152

Construct geometry for Disposal Container

Define center and axis keypoints for waste package
Also, create placeholder keypoints and lines
(K's 1,2,3,4,5,6,7,8)
(L's 1,2,3,4)

KEYPOINT 1 X,Y,Z= .000000E+00 .000000E+00 .000000E+00 IN CSYS= 0

KEYPOINT	2	X,Y,Z=	.000000E+00	.000000E+00	1.00000	IN CSYS= 0
KEYPOINT	3	X,Y,Z=	.000000E+00	.000000E+00	1.30000	IN CSYS= 0
KEYPOINT	4	X,Y,Z=	.000000E+00	.000000E+00	1.40000	IN CSYS= 0
KEYPOINT	5	X,Y,Z=	.000000E+00	.000000E+00	1.50000	IN CSYS= 0
KEYPOINT	6	X,Y,Z=	.000000E+00	.000000E+00	1.60000	IN CSYS= 0
KEYPOINT	7	X,Y,Z=	.000000E+00	.000000E+00	1.70000	IN CSYS= 0
KEYPOINT	8	X,Y,Z=	.000000E+00	.000000E+00	1.80000	IN CSYS= 0

LINE CONNECTS KEYPOINTS		3	4			
LINE NO.=	1	KP1=	3	TAN1=	.0000	.0000 -1.0000
		KP2=	4	TAN2=	.0000	.0000 1.0000

LINE CONNECTS KEYPOINTS		4	5			
LINE NO.=	2	KP1=	4	TAN1=	.0000	.0000 -1.0000
		KP2=	5	TAN2=	.0000	.0000 1.0000

LINE CONNECTS KEYPOINTS		5	6			
LINE NO.=	3	KP1=	5	TAN1=	.0000	.0000 -1.0000
		KP2=	6	TAN2=	.0000	.0000 1.0000

LINE CONNECTS KEYPOINTS		6	7			
LINE NO.=	4	KP1=	6	TAN1=	.0000	.0000 -1.0000
		KP2=	7	TAN2=	.0000	.0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT	9	X,Y,Z=	.000000E+00	-.764500	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.764500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.764500	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.714500	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.714500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.714500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		10	13			
LINE NO.=	5	KP1=	10	TAN1=	1.0000	.0000 .0000
		KP2=	13	TAN2=	-1.0000	.0000 .0000

ARC BETWEEN KEYPOINTS	10 AND	9	ORIENTATION KEYPOINT=	1
RADIUS=	.76450			
LINE NO.=	6	KP1=	10	TAN1=
		KP2=	9	TAN2=

ARC BETWEEN KEYPOINTS	11 AND	10	ORIENTATION KEYPOINT=	1
RADIUS=	.76450			
LINE NO.=	7	KP1=	11	TAN1=
		KP2=	10	TAN2=

ARC BETWEEN KEYPOINTS	13 AND	12	ORIENTATION KEYPOINT=	1
RADIUS=	.71450			
LINE NO.=	8	KP1=	13	TAN1=
		KP2=	12	TAN2=

ARC BETWEEN KEYPOINTS	14 AND	13	ORIENTATION KEYPOINT=	1
RADIUS=	.71450			
LINE NO.=	9	KP1=	14	TAN1=
		KP2=	13	TAN2=

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT	15	X,Y,Z=	.000000E+00	.694500	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.116750	.684616	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.126750	.682836	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.360250	.593759	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.369750	.587890	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.587890	.369750	.000000E+00	IN CSYS= 0
KEYPOINT	21	X,Y,Z=	.593759	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.682836	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.684616	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.694500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.684616	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.682836	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.593759	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.587890	-.369750	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.369750	-.587890	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.360250	-.593759	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.126750	-.682836	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.116750	-.684616	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.000000E+00	-.694500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 15 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS	16 AND	15	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	13	KP1=	16 TAN1=	.9858 -.1681 .0000
		KP2=	15 TAN2=	-1.0000 .0000 .0000
ARC BETWEEN KEYPOINTS	17 AND	16	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	14	KP1=	17 TAN1=	.9832 -.1825 .0000
		KP2=	16 TAN2=	-.9858 .1681 .0000
ARC BETWEEN KEYPOINTS	18 AND	17	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	15	KP1=	18 TAN1=	.8549 -.5187 .0000
		KP2=	17 TAN2=	-.9832 .1825 .0000
ARC BETWEEN KEYPOINTS	19 AND	18	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	16	KP1=	19 TAN1=	.8465 -.5324 .0000
		KP2=	18 TAN2=	-.8549 .5187 .0000
ARC BETWEEN KEYPOINTS	20 AND	19	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	17	KP1=	20 TAN1=	.5324 -.8465 .0000
		KP2=	19 TAN2=	-.8465 .5324 .0000
ARC BETWEEN KEYPOINTS	21 AND	20	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	18	KP1=	21 TAN1=	.5187 -.8549 .0000
		KP2=	20 TAN2=	-.5324 .8465 .0000
ARC BETWEEN KEYPOINTS	22 AND	21	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	19	KP1=	22 TAN1=	.1825 -.9832 .0000
		KP2=	21 TAN2=	-.5187 .8549 .0000
ARC BETWEEN KEYPOINTS	23 AND	22	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	20	KP1=	23 TAN1=	.1681 -.9858 .0000
		KP2=	22 TAN2=	-.1825 .9832 .0000
ARC BETWEEN KEYPOINTS	24 AND	23	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	21	KP1=	24 TAN1=	.0000 -1.0000 .0000
		KP2=	23 TAN2=	-.1681 .9858 .0000
ARC BETWEEN KEYPOINTS	25 AND	24	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	22	KP1=	25 TAN1=	-.1681 -.9858 .0000
		KP2=	24 TAN2=	.0000 1.0000 .0000
ARC BETWEEN KEYPOINTS	26 AND	25	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	23	KP1=	26 TAN1=	-.1825 -.9832 .0000
		KP2=	25 TAN2=	.1681 .9858 .0000
ARC BETWEEN KEYPOINTS	27 AND	26	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	24	KP1=	27 TAN1=	-.5187 -.8549 .0000
		KP2=	26 TAN2=	.1825 .9832 .0000
ARC BETWEEN KEYPOINTS	28 AND	27	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	25	KP1=	28 TAN1=	-.5324 -.8465 .0000
		KP2=	27 TAN2=	.5187 .8549 .0000
ARC BETWEEN KEYPOINTS	29 AND	28	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	26	KP1=	29 TAN1=	-.8465 -.5324 .0000
		KP2=	28 TAN2=	.5324 .8465 .0000

ARC BETWEEN KEYPOINTS 30 AND 29 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 27 KP1= 30 TAN1= -.8549 -.5187 .0000
 KP2= 29 TAN2= .8465 .5324 .0000

ARC BETWEEN KEYPOINTS 31 AND 30 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 28 KP1= 31 TAN1= -.9832 -.1825 .0000
 KP2= 30 TAN2= .8549 .5187 .0000

ARC BETWEEN KEYPOINTS 32 AND 31 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 29 KP1= 32 TAN1= -.9858 -.1681 .0000
 KP2= 31 TAN2= .9832 .1825 .0000

ARC BETWEEN KEYPOINTS 33 AND 32 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 30 KP1= 33 TAN1= -1.0000 .0000 .0000
 KP2= 32 TAN2= .9858 .1681 .0000

LINE CONNECTS KEYPOINTS 33 12
 LINE NO.= 31 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 13
 LINE NO.= 32 KP1= 24 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 21 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 9 TO 9 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 9)

AREA NUMBER = 3

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 22 TO 31 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 8 TO 8 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 8).

AREA NUMBER = 4

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 32 STEP 1

32 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides
(K's 34,35,36,37)
(L's 33,34,35,36,37,38,39,40,41,42)
(A's 5,6,7,8,9,10)

top guide

KEYPOINT 34 X,Y,Z= .360250 .360250 .000000E+00 IN CSYS= 0

KEYPOINT 35 X,Y,Z= .369750 .369750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 19 35
LINE NO.= 33 KP1= 19 TAN1= .0000 1.0000 .0000
KP2= 35 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 35 20
LINE NO.= 34 KP1= 35 TAN1= -1.0000 .0000 .0000
KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 21 34
LINE NO.= 35 KP1= 21 TAN1= 1.0000 .0000 .0000
KP2= 34 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 18
LINE NO.= 36 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 18 TAN2= .0000 1.0000 .0000

bottom guide

KEYPOINT 36 X,Y,Z= .369750 -.369750 .000000E+00 IN CSYS= 0

KEYPOINT 37 X,Y,Z= .360250 -.360250 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 28 36
LINE NO.= 37 KP1= 28 TAN1= 1.0000 .0000 .0000
KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 36 29
LINE NO.= 38 KP1= 36 TAN1= .0000 1.0000 .0000
KP2= 29 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 37
LINE NO.= 39 KP1= 30 TAN1= .0000 -1.0000 .0000
KP2= 37 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 37 27
LINE NO.= 40 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 27 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 35
LINE NO.= 41 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 35 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 37 36
LINE NO.= 42 KP1= 37 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES
LINE LIST = 17 33 34
(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES
LINE LIST = 26 37 38

(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 6
Guide steel

DEFINE AREA BY LIST OF LINES

LINE LIST = 16 33 41 36
(TRAVERSED IN SAME DIRECTION AS LINE 16)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES

LINE LIST = 18 35 41 34
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 37 42 40
(TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 39 42 38
(TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 10

Define thermal shunts

(K's 38,39,40,41,42,43,44,45,46,47,48,49,50)

(51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)

(L's 43,44,45,46,47,48,49)

(50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)

(67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)

(84,85,86,87,88,89,90)

(A's 11 - 27)

top horizontal thermal shunt

KEYPOINT	38	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.000000E+00	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.116750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.126750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	45	X,Y,Z=	.360250	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	46	X,Y,Z=	.593750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	47	X,Y,Z=	.593750	.126750	.000000E+00	IN CSYS= 0

bottom horizontal thermal shunt

KEYPOINT	48	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.000000E+00	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.116750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	52	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0

KEYPOINT 53 X,Y,Z= .126750 -.126750 .000000E+00 IN CSYS= 0
 KEYPOINT 54 X,Y,Z= .360250 -.116750 .000000E+00 IN CSYS= 0
 KEYPOINT 55 X,Y,Z= .360250 -.126750 .000000E+00 IN CSYS= 0
 KEYPOINT 56 X,Y,Z= .593750 -.116750 .000000E+00 IN CSYS= 0
 KEYPOINT 57 X,Y,Z= .593750 -.126750 .000000E+00 IN CSYS= 0
 right vertical thermal shunt
 KEYPOINT 58 X,Y,Z= .116750 .593750 .000000E+00 IN CSYS= 0
 KEYPOINT 59 X,Y,Z= .126750 .593750 .000000E+00 IN CSYS= 0
 KEYPOINT 60 X,Y,Z= .116750 .360250 .000000E+00 IN CSYS= 0
 KEYPOINT 61 X,Y,Z= .126750 .360250 .000000E+00 IN CSYS= 0
 KEYPOINT 62 X,Y,Z= .116750 -.360250 .000000E+00 IN CSYS= 0
 KEYPOINT 63 X,Y,Z= .126750 -.360250 .000000E+00 IN CSYS= 0
 KEYPOINT 64 X,Y,Z= .116750 -.593750 .000000E+00 IN CSYS= 0
 KEYPOINT 65 X,Y,Z= .126750 -.593750 .000000E+00 IN CSYS= 0
 Lines; shunt widths, top, bottom, then vertical: (43-60)

LINE CONNECTS KEYPOINTS 38 39
 LINE NO.= 43 KP1= 38 TAN1= .0000 -1.0000 .0000
 KP2= 39 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 40 41
 LINE NO.= 44 KP1= 40 TAN1= .0000 -1.0000 .0000
 KP2= 41 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 42 43
 LINE NO.= 45 KP1= 42 TAN1= .0000 -1.0000 .0000
 KP2= 43 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 44 45
 LINE NO.= 46 KP1= 44 TAN1= .0000 -1.0000 .0000
 KP2= 45 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 46 47
 LINE NO.= 47 KP1= 46 TAN1= .0000 -1.0000 .0000
 KP2= 47 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 48 KP1= 48 TAN1= .0000 1.0000 .0000
 KP2= 49 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 49 KP1= 50 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 52 53
 LINE NO.= 50 KP1= 52 TAN1= .0000 1.0000 .0000
 KP2= 53 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 54 55
 LINE NO.= 51 KP1= 54 TAN1= .0000 1.0000 .0000
 KP2= 55 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 56 57
 LINE NO.= 52 KP1= 56 TAN1= .0000 1.0000 .0000
 KP2= 57 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 58 59

LINE NO.=	53	KP1=	58	TAN1=	-1.0000	.0000	.0000
		KP2=	59	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 60 61							
LINE NO.=	54	KP1=	60	TAN1=	-1.0000	.0000	.0000
		KP2=	61	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 41 43							
LINE NO.=	55	KP1=	41	TAN1=	-1.0000	.0000	.0000
		KP2=	43	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 40 42							
LINE NO.=	56	KP1=	40	TAN1=	-1.0000	.0000	.0000
		KP2=	42	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 50 52							
LINE NO.=	57	KP1=	50	TAN1=	-1.0000	.0000	.0000
		KP2=	52	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 51 53							
LINE NO.=	58	KP1=	51	TAN1=	-1.0000	.0000	.0000
		KP2=	53	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 62 63							
LINE NO.=	59	KP1=	62	TAN1=	-1.0000	.0000	.0000
		KP2=	63	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 64 65							
LINE NO.=	60	KP1=	64	TAN1=	-1.0000	.0000	.0000
		KP2=	65	TAN2=	1.0000	.0000	.0000
Lines; shunt edges, top, bottom, then vertical: (61-90)							
LINE CONNECTS KEYPOINTS 39 41							
LINE NO.=	61	KP1=	39	TAN1=	-1.0000	.0000	.0000
		KP2=	41	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 40 38							
LINE NO.=	62	KP1=	40	TAN1=	1.0000	.0000	.0000
		KP2=	38	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 43 45							
LINE NO.=	63	KP1=	43	TAN1=	-1.0000	.0000	.0000
		KP2=	45	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 44 42							
LINE NO.=	64	KP1=	44	TAN1=	1.0000	.0000	.0000
		KP2=	42	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 45 47							
LINE NO.=	65	KP1=	45	TAN1=	-1.0000	.0000	.0000
		KP2=	47	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 46 44							
LINE NO.=	66	KP1=	46	TAN1=	1.0000	.0000	.0000
		KP2=	44	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 47 22							
LINE NO.=	67	KP1=	47	TAN1=	-1.0000	.0000	.0000
		KP2=	22	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 23 46							
LINE NO.=	68	KP1=	23	TAN1=	1.0000	.0000	.0000
		KP2=	46	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 48 50							
LINE NO.=	69	KP1=	48	TAN1=	-1.0000	.0000	.0000
		KP2=	50	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 51 49							
LINE NO.=	70	KP1=	51	TAN1=	1.0000	.0000	.0000

	KP2=	49	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		52	54			
LINE NO.= 71	KP1=	52	TAN1=	-1.0000	.0000	.0000
	KP2=	54	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		55	53			
LINE NO.= 72	KP1=	55	TAN1=	1.0000	.0000	.0000
	KP2=	53	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		54	56			
LINE NO.= 73	KP1=	54	TAN1=	-1.0000	.0000	.0000
	KP2=	56	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		57	55			
LINE NO.= 74	KP1=	57	TAN1=	1.0000	.0000	.0000
	KP2=	55	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		56	25			
LINE NO.= 75	KP1=	56	TAN1=	-1.0000	.0000	.0000
	KP2=	25	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		26	57			
LINE NO.= 76	KP1=	26	TAN1=	1.0000	.0000	.0000
	KP2=	57	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		58	16			
LINE NO.= 77	KP1=	58	TAN1=	.0000	-1.0000	.0000
	KP2=	16	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		17	59			
LINE NO.= 78	KP1=	17	TAN1=	.0000	1.0000	.0000
	KP2=	59	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		60	58			
LINE NO.= 79	KP1=	60	TAN1=	.0000	-1.0000	.0000
	KP2=	58	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		59	61			
LINE NO.= 80	KP1=	59	TAN1=	.0000	1.0000	.0000
	KP2=	61	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		41	60			
LINE NO.= 81	KP1=	41	TAN1=	.0000	-1.0000	.0000
	KP2=	60	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		61	43			
LINE NO.= 82	KP1=	61	TAN1=	.0000	1.0000	.0000
	KP2=	43	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		50	40			
LINE NO.= 83	KP1=	50	TAN1=	.0000	-1.0000	.0000
	KP2=	40	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		42	52			
LINE NO.= 84	KP1=	42	TAN1=	.0000	1.0000	.0000
	KP2=	52	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		62	51			
LINE NO.= 85	KP1=	62	TAN1=	.0000	-1.0000	.0000
	KP2=	51	TAN2=	.0000	1.0000	.0000
LINE CONNECTS KEYPOINTS		53	63			
LINE NO.= 86	KP1=	53	TAN1=	.0000	1.0000	.0000
	KP2=	63	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS		64	62			
LINE NO.= 87	KP1=	64	TAN1=	.0000	-1.0000	.0000
	KP2=	62	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS 63 65
 LINE NO.= 88 KP1= 63 TAN1= .0000 1.0000 .0000
 KP2= 65 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 32 64
 LINE NO.= 89 KP1= 32 TAN1= .0000 -1.0000 .0000
 KP2= 64 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 65 31
 LINE NO.= 90 KP1= 65 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000

define areas for thermal shunts

DEFINE AREA BY LIST OF LINES
 LINE LIST = 43 61 44 62
 (TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES
 LINE LIST = 44 55 45 56
 (TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES
 LINE LIST = 45 63 46 64
 (TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES
 LINE LIST = 46 65 47 66
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES
 LINE LIST = 47 67 20 68
 (TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES
 LINE LIST = 48 69 49 70
 (TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES
 LINE LIST = 49 57 50 58
 (TRAVERSED IN SAME DIRECTION AS LINE 49)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES
 LINE LIST = 50 71 51 72
 (TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES
 LINE LIST = 51 73 52 74
 (TRAVERSED IN SAME DIPECTION AS LINE 51)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES
 LINE LIST = 52 75 23 76
 (TRAVERSED IN SAME DIRECTION AS LINE 52)

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AREA NUMBER =      20

DEFINE AREA BY LIST OF LINES
  LINE LIST =      14      77      53      78
  (TRAVERSED IN SAME DIRECTION AS LINE      14)

AREA NUMBER =      21

DEFINE AREA BY LIST OF LINES
  LINE LIST =      53      79      54      80
  (TRAVERSED IN SAME DIRECTION AS LINE      53)

AREA NUMBER =      22

DEFINE AREA BY LIST OF LINES
  LINE LIST =      54      81      55      82
  (TRAVERSED IN SAME DIRECTION AS LINE      54)

AREA NUMBER =      23

DEFINE AREA BY LIST OF LINES
  LINE LIST =      56      83      57      84
  (TRAVERSED IN SAME DIRECTION AS LINE      56)

AREA NUMBER =      24

DEFINE AREA BY LIST OF LINES
  LINE LIST =      58      85      59      86
  (TRAVERSED IN SAME DIRECTION AS LINE      58)

AREA NUMBER =      25

DEFINE AREA BY LIST OF LINES
  LINE LIST =      59      87      60      88
  (TRAVERSED IN SAME DIRECTION AS LINE      59)

AREA NUMBER =      26

DEFINE AREA BY LIST OF LINES
  LINE LIST =      60      89      29      90
  (TRAVERSED IN SAME DIRECTION AS LINE      60)

AREA NUMBER =      27
*****
  Define shell gaps at the exterior of the tube array
  (K's 66 - 67)
  (L's 91 - 99)
  (A's 28 - 34)

KEYPOINT    66    X,Y,Z=    .000000E+00    .593750    .000000E+00    IN CSYS=  0

KEYPOINT    67    X,Y,Z=    .000000E+00   -.593750    .000000E+00    IN CSYS=  0

LINE CONNECTS KEYPOINTS      15      66
  LINE NO.=   91  KP1=      15  TAN1=    .0000    1.0000    .0000
               KP2=      66  TAN2=    .0000   -1.0000    .0000

LINE CONNECTS KEYPOINTS      66      58
  LINE NO.=   92  KP1=      66  TAN1=   -1.0000    .0000    .0000
               KP2=      58  TAN2=    1.0000    .0000    .0000

LINE CONNECTS KEYPOINTS      59      18
  LINE NO.=   93  KP1=      59  TAN1=   -1.0000    .0000    .0000
               KP2=      18  TAN2=    1.0000    .0000    .0000

LINE CONNECTS KEYPOINTS      21      47
  LINE NO.=   94  KP1=      21  TAN1=    .0000    1.0000    .0000

```

	KP2=	47	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 46 56						
LINE NO.=	95	KP1=	46	TAN1=	.0000	1.0000
		KP2=	56	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 57 27						
LINE NO.=	96	KP1=	57	TAN1=	.0000	1.0000
		KP2=	27	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 30 65						
LINE NO.=	97	KP1=	30	TAN1=	1.0000	.0000
		KP2=	65	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 64 67						
LINE NO.=	98	KP1=	64	TAN1=	1.0000	.0000
		KP2=	67	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 67 33						
LINE NO.=	99	KP1=	67	TAN1=	.0000	1.0000
		KP2=	33	TAN2=	.0000	-1.0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 13 91 92 77
 (TRAVERSED IN SAME DIRECTION AS LINE 13)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
 LINE LIST = 15 78 93
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
 LINE LIST = 19 94 67
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES
 LINE LIST = 21 68 95 75 22
 (TRAVERSED IN SAME DIRECTION AS LINE 21)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES
 LINE LIST = 24 76 96
 (TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES
 LINE LIST = 28 97 90
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES
 LINE LIST = 30 89 98 99
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 34

Define center half-tube
 (K's 68-75)
 (L's 100-110)
 (A's 35-38)

KEYPOINT	68	X,Y,Z=	.000000E+00	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.111750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.000000E+00	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.111750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	72	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		70	68			
LINE NO.=	100	KP1=	70	TAN1=	.0000	-1.0000
		KP2=	68	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		70	74			
LINE NO.=	101	KP1=	70	TAN1=	.0000	1.0000
		KP2=	74	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		68	72			
LINE NO.=	102	KP1=	68	TAN1=	.0000	-1.0000
		KP2=	72	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		71	75			
LINE NO.=	103	KP1=	71	TAN1=	-.7071	.7071
		KP2=	75	TAN2=	.7071	-.7071

LINE CONNECTS KEYPOINTS		69	73			
LINE NO.=	104	KP1=	69	TAN1=	-.7071	-.7071
		KP2=	73	TAN2=	.7071	.7071

LINE CONNECTS KEYPOINTS		75	74			
LINE NO.=	105	KP1=	75	TAN1=	1.0000	.0000
		KP2=	74	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		71	70			
LINE NO.=	106	KP1=	71	TAN1=	1.0000	.0000
		KP2=	70	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		68	69			
LINE NO.=	107	KP1=	68	TAN1=	-1.0000	.0000
		KP2=	69	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		72	73			
LINE NO.=	108	KP1=	72	TAN1=	-1.0000	.0000
		KP2=	73	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		69	71			
LINE NO.=	109	KP1=	69	TAN1=	.0000	1.0000
		KP2=	71	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		73	75			
LINE NO.=	110	KP1=	73	TAN1=	.0000	1.0000
		KP2=	75	TAN2=	.0000	-1.0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 100 106 109 107
 (TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES
 LINE LIST = 101 105 103 106
 (TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 109 103 110 104

(TRAVERSED IN SAME DIRECTION AS LINE 109)

AREA NUMBER = 37

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 107 104 108

(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 38

Define center full-tube

(K's 76 - 83)

(L's 111 - 122)

(A's 39 - 43)

KEYPOINT	76	X,Y,Z=	.131750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.355250	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	78	X,Y,Z=	.131750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	79	X,Y,Z=	.355250	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	80	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	81	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	82	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	83	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	78	82
LINE NO.= 111	KP1= 78	TAN1= .7071 .7071 .0000
	KP2= 82	TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	76	80
LINE NO.= 112	KP1= 76	TAN1= .7071 -.7071 .0000
	KP2= 80	TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS	79	83
LINE NO.= 113	KP1= 79	TAN1= -.7071 .7071 .0000
	KP2= 83	TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	77	81
LINE NO.= 114	KP1= 77	TAN1= -.7071 -.7071 .0000
	KP2= 81	TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS	83	82
LINE NO.= 115	KP1= 83	TAN1= 1.0000 .0000 .0000
	KP2= 82	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	79	78
LINE NO.= 116	KP1= 79	TAN1= 1.0000 .0000 .0000
	KP2= 78	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	76	77
LINE NO.= 117	KP1= 76	TAN1= -1.0000 .0000 .0000
	KP2= 77	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	80	81
LINE NO.= 118	KP1= 80	TAN1= -1.0000 .0000 .0000
	KP2= 81	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	82	80
LINE NO.= 119	KP1= 82	TAN1= .0000 -1.0000 .0000
	KP2= 80	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 78 76
 LINE NO.= 120 KP1= 78 TAN1= .0000 -1.0000 .0000
 KP2= 76 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 77 79
 LINE NO.= 121 KP1= 77 TAN1= .0000 1.0000 .0000
 KP2= 79 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 81 83
 LINE NO.= 122 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 83 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 120 116 121 117
 (TRAVERSED IN SAME DIRECTION AS LINE 120)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES
 LINE LIST = 119 111 120 112
 (TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES
 LINE LIST = 111 115 113 116
 (TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES
 LINE LIST = 121 113 122 114
 (TRAVERSED IN SAME DIRECTION AS LINE 121)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES
 LINE LIST = 112 117 114 118
 (TRAVERSED IN SAME DIRECTION AS LINE 112)

AREA NUMBER = 43

Set element shapes and sizes for tubes
 14x14 mesh in fuel with 2
 divisions per tube layer

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 115 TO 122 STEP 1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 109 TO 110 STEP 1

10 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 100 TO 100 STEP 1

11 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 14, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 105 TO 108 STEP 1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 101 TO 104 STEP 1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 111 TO 114 STEP 1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 122 STEP 1

122 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless tubes

MATERIAL NUMBER SET TO 4

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 35 TO 35 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 120
MAXIMUM ELEMENT NUMBER = 98

GENERATE NODES AND ELEMENTS
IN AREAS 39 TO 39 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 345
MAXIMUM ELEMENT NUMBER = 294

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 36 TO 38 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 403
MAXIMUM ELEMENT NUMBER = 350

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 515
MAXIMUM ELEMENT NUMBER = 462

Copy tube mesh

center half tube above and below
(A's 44 - 47)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 693
 MAXIMUM ELEMENT NUMBER = 616
 (A's 48 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 871
 MAXIMUM ELEMENT NUMBER = 770
 (A's 52 - 55)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1049
 MAXIMUM ELEMENT NUMBER = 924
 (A's 56 - 59)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1227
 MAXIMUM ELEMENT NUMBER = 1078

center full tube side, above, and below
 (A's 60 - 64 = Side)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1564
 MAXIMUM ELEMENT NUMBER = 1386
 (A's 65 - 69 = up 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1901
 MAXIMUM ELEMENT NUMBER = 1694
 (A's 70 - 74 = up 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2238
 MAXIMUM ELEMENT NUMBER = 2002
 (A's 75 - 79 = down 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2575
 MAXIMUM ELEMENT NUMBER = 2310
 (A's 80 - 84 = down 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2912
 MAXIMUM ELEMENT NUMBER = 2618
 center full tube get corners
 (A's 85 - 89 = up corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3249
 MAXIMUM ELEMENT NUMBER = 2926
 (A's 90 - 94 = down corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3586
 MAXIMUM ELEMENT NUMBER = 3234

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 814	USED FOR NODES	1214
NODE 680	USED FOR NODES	992
NODE 822	USED FOR NODES	1216
NODE 682	USED FOR NODES	1000
NODE 821	USED FOR NODES	1217
NODE 683	USED FOR NODES	999
NODE 820	USED FOR NODES	1218
NODE 684	USED FOR NODES	998
NODE 819	USED FOR NODES	1219
NODE 685	USED FOR NODES	997
NODE 818	USED FOR NODES	1220
NODE 686	USED FOR NODES	996
NODE 687	USED FOR NODES	995
NODE 817	USED FOR NODES	1221
NODE 816	USED FOR NODES	1186
NODE 652	USED FOR NODES	994
NODE 1791	USED FOR NODES	2127
NODE 2464	USED FOR NODES	2802
NODE 1876	USED FOR NODES	2170
NODE 2507	USED FOR NODES	2887
NODE 1877	USED FOR NODES	2169
NODE 2506	USED FOR NODES	2888
NODE 1878	USED FOR NODES	2168
NODE 2505	USED FOR NODES	2889
NODE 1879	USED FOR NODES	2167
NODE 2504	USED FOR NODES	2890
NODE 1880	USED FOR NODES	2166
NODE 2503	USED FOR NODES	2891
NODE 1881	USED FOR NODES	2165
NODE 2502	USED FOR NODES	2892
NODE 1882	USED FOR NODES	2164
NODE 2501	USED FOR NODES	2893
NODE 1883	USED FOR NODES	2163
NODE 2500	USED FOR NODES	2894
NODE 1884	USED FOR NODES	2162
NODE 2499	USED FOR NODES	2895
NODE 1885	USED FOR NODES	2161
NODE 2498	USED FOR NODES	2896
NODE 1886	USED FOR NODES	2160
NODE 2497	USED FOR NODES	2897
NODE 1887	USED FOR NODES	2159
NODE 2496	USED FOR NODES	2898
NODE 1888	USED FOR NODES	2158
NODE 2495	USED FOR NODES	2899
NODE 2494	USED FOR NODES	2859 3475
NODE 2522	USED FOR NODES	3476
NODE 2535	USED FOR NODES	3477
NODE 2534	USED FOR NODES	3478

NODE	2533	USED FOR NODES	3479	
NODE	2532	USED FOR NODES	3480	
NODE	1820	USED FOR NODES	3138	
NODE	1848	USED FOR NODES	2157	3139
NODE	1861	USED FOR NODES	3140	
NODE	434	USED FOR NODES	1453	
NODE	462	USED FOR NODES	1454	
NODE	475	USED FOR NODES	1455	
NODE	2523	USED FOR NODES	3489	
NODE	2524	USED FOR NODES	3488	
NODE	2525	USED FOR NODES	3487	
NODE	2526	USED FOR NODES	3486	
NODE	2527	USED FOR NODES	3485	
NODE	2528	USED FOR NODES	3484	
NODE	2529	USED FOR NODES	3483	
NODE	2530	USED FOR NODES	3482	
NODE	2531	USED FOR NODES	3481	
NODE	474	USED FOR NODES	1456	
NODE	473	USED FOR NODES	1457	
NODE	472	USED FOR NODES	1458	
NODE	471	USED FOR NODES	1459	
NODE	470	USED FOR NODES	1460	
NODE	469	USED FOR NODES	1461	
NODE	468	USED FOR NODES	1462	
NODE	467	USED FOR NODES	1463	
NODE	463	USED FOR NODES	1467	
NODE	466	USED FOR NODES	1464	
NODE	464	USED FOR NODES	1466	
NODE	465	USED FOR NODES	1465	
NODE	1860	USED FOR NODES	3141	
NODE	1859	USED FOR NODES	3142	
NODE	1858	USED FOR NODES	3143	
NODE	1857	USED FOR NODES	3144	
NODE	1856	USED FOR NODES	3145	
NODE	1855	USED FOR NODES	3146	
NODE	1854	USED FOR NODES	3147	
NODE	1853	USED FOR NODES	3148	
NODE	1852	USED FOR NODES	3149	
NODE	1851	USED FOR NODES	3150	
NODE	1850	USED FOR NODES	3151	
NODE	1849	USED FOR NODES	3152	

*** WARNING *** CP= 12.220 TIME= 04:15:42
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 12.530 TIME= 04:15:42
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.540 TIME= 04:15:42
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.550 TIME= 04:15:42
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.560 TIME= 04:15:42
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.

(2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

KEYPOINT	34 USED FOR KEYPOINT(S)	131	138	161
KEYPOINT	37 USED FOR KEYPOINT(S)	146	155	168
KEYPOINT	38 USED FOR KEYPOINT(S)	72		
KEYPOINT	39 USED FOR KEYPOINT(S)	88		
KEYPOINT	40 USED FOR KEYPOINT(S)	73		
KEYPOINT	41 USED FOR KEYPOINT(S)	89		
KEYPOINT	42 USED FOR KEYPOINT(S)	80		
KEYPOINT	43 USED FOR KEYPOINT(S)	128		
KEYPOINT	44 USED FOR KEYPOINT(S)	81	121	
KEYPOINT	45 USED FOR KEYPOINT(S)	130	160	
KEYPOINT	46 USED FOR KEYPOINT(S)	123		
KEYPOINT	47 USED FOR KEYPOINT(S)	162		
KEYPOINT	48 USED FOR KEYPOINT(S)	74		
KEYPOINT	49 USED FOR KEYPOINT(S)	99		
KEYPOINT	50 USED FOR KEYPOINT(S)	75		
KEYPOINT	51 USED FOR KEYPOINT(S)	98		
KEYPOINT	52 USED FOR KEYPOINT(S)	82		
KEYPOINT	53 USED FOR KEYPOINT(S)	145		
KEYPOINT	54 USED FOR KEYPOINT(S)	83	120	
KEYPOINT	55 USED FOR KEYPOINT(S)	147	169	
KEYPOINT	56 USED FOR KEYPOINT(S)	122		
KEYPOINT	57 USED FOR KEYPOINT(S)	171		
KEYPOINT	58 USED FOR KEYPOINT(S)	106		
KEYPOINT	59 USED FOR KEYPOINT(S)	137		
KEYPOINT	60 USED FOR KEYPOINT(S)	90	105	
KEYPOINT	61 USED FOR KEYPOINT(S)	129	136	
KEYPOINT	62 USED FOR KEYPOINT(S)	97	114	
KEYPOINT	63 USED FOR KEYPOINT(S)	144	153	
KEYPOINT	64 USED FOR KEYPOINT(S)	113		
KEYPOINT	65 USED FOR KEYPOINT(S)	152		
KEYPOINT	66 USED FOR KEYPOINT(S)	107		
KEYPOINT	67 USED FOR KEYPOINT(S)	112		
KEYPOINT	91 USED FOR KEYPOINT(S)	104		
KEYPOINT	96 USED FOR KEYPOINT(S)	115		
LINE	61 USED FOR LINE(S)	128		

*** WARNING *** CP= 12.780 TIME= 04:15:43
Due to merge, line 61 is now meshed.
LINE 62 USED FOR LINE(S) 108

*** WARNING *** CP= 12.780 TIME= 04:15:43
Due to merge, line 62 is now meshed.
LINE 63 USED FOR LINE(S) 186

*** WARNING *** CP= 12.780 TIME= 04:15:43
Due to merge, line 63 is now meshed.
LINE 64 USED FOR LINE(S) 118

*** WARNING *** CP= 12.790 TIME= 04:15:43
Due to merge, line 64 is now meshed.
LINE 65 USED FOR LINE(S) 234

*** WARNING *** CP= 12.790 TIME= 04:15:43
Due to merge, line 65 is now meshed.
LINE 66 USED FOR LINE(S) 178

*** WARNING *** CP= 12.790 TIME= 04:15:43
Due to merge, line 66 is now meshed.
LINE 69 USED FOR LINE(S) 105

*** WARNING *** CP= 12.800 TIME= 04:15:43
Due to merge, line 69 is now meshed.
LINE 70 USED FOR LINE(S) 144

*** WARNING *** CP= 12.800 TIME= 04:15:43
Due to merge, line 70 is now meshed.
LINE 71 USED FOR LINE(S) 115

*** WARNING *** Due to merge, line 71 is now meshed. LINE 72 USED FOR LINE(S) 214	CP= 12.800 TIME= 04:15:43
*** WARNING *** Due to merge, line 72 is now meshed. LINE 73 USED FOR LINE(S) 174	CP= 12.800 TIME= 04:15:43
*** WARNING *** Due to merge, line 73 is now meshed. LINE 74 USED FOR LINE(S) 250	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 74 is now meshed. LINE 79 USED FOR LINE(S) 152	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 79 is now meshed. LINE 80 USED FOR LINE(S) 195	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 80 is now meshed. LINE 81 USED FOR LINE(S) 130	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 81 is now meshed. LINE 82 USED FOR LINE(S) 183	CP= 12.820 TIME= 04:15:43
*** WARNING *** Due to merge, line 82 is now meshed. LINE 83 USED FOR LINE(S) 110	CP= 12.820 TIME= 04:15:43
*** WARNING *** Due to merge, line 83 is now meshed. LINE 84 USED FOR LINE(S) 119	CP= 12.820 TIME= 04:15:43
*** WARNING *** Due to merge, line 84 is now meshed. LINE 85 USED FOR LINE(S) 141	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 85 is now meshed. LINE 86 USED FOR LINE(S) 207	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 86 is now meshed. LINE 87 USED FOR LINE(S) 163	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 87 is now meshed. LINE 88 USED FOR LINE(S) 219	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 88 is now meshed. LINE 92 USED FOR LINE(S) 155	CP= 12.840 TIME= 04:15:43
*** WARNING *** Due to merge, line 92 is now meshed. LINE 95 USED FOR LINE(S) 176	CP= 12.840 TIME= 04:15:43
*** WARNING *** Due to merge, line 95 is now meshed. LINE 98 USED FOR LINE(S) 161	CP= 12.840 TIME= 04:15:43
*** WARNING *** Due to merge, line 98 is now meshed. LINE 122 USED FOR LINE(S) 171 LINE 133 USED FOR LINE(S) 150 LINE 139 USED FOR LINE(S) 166 LINE 188 USED FOR LINE(S) 231	CP= 12.850 TIME= 04:15:43

LINE 190 USED FOR LINE(S) 198
 LINE 210 USED FOR LINE(S) 226
 LINE 212 USED FOR LINE(S) 243

Create mesh in tube guides, thermal shunts
 Set mesh size for gaps.....

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 41 TO 60 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 14 TO 20 STEP 2

24 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 23 TO 29 STEP 2

28 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 2, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 61 TO 62 STEP 1

2 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 69 TO 70 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 91 TO 92 STEP 1

6 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 98 TO 99 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 21 TO 22 STEP 1

10 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 77 TO 78 STEP 1

12 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 89 TO 90 STEP 1

14 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 67 TO 68 STEP 1

16 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 75 TO 76 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 13 STEP 1

19 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 30 TO 30 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

*** WARNING *** CP= 12.990 TIME= 04:15:43
Some lines in the currently selected set were meshed and could not be altered.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 63 TO 66 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 71 TO 74 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 88 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 40 STEP 1

26 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 93 TO 97 STEP 1

31 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 15 TO 19 STEP 2

34 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 24 TO 28 STEP 2

37 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 14, SPACING RATIO = 1.000

*** WARNING *** CP= 13.040 TIME= 04:15:43
Some lines in the currently selected set were meshed and could not be altered.

MESH CORNER GUIDES

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 7 TO 10 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 3758
MAXIMUM ELEMENT NUMBER = 3346
MESH THERMAL SHUNTS

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 27 IN STEPS OF 1

*** WARNING *** CP= 13.600 TIME= 04:15:43
Meshing of area 13 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.600 TIME= 04:15:43
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3365 3378 3379 3392

*** WARNING *** CP= 13.650 TIME= 04:15:43
Meshing of area 14 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.650 TIME= 04:15:43
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3393 3406 3407 3420

*** WARNING *** CP= 13.790 TIME= 04:15:44
Meshing of area 18 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.790 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3453 3454 3479 3480

*** WARNING *** CP= 13.840 TIME= 04:15:44
Meshing of area 19 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.840 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3481 3482 3507 3508

*** WARNING *** CP= 13.970 TIME= 04:15:44
Meshing of area 22 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.970 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3537 3550 3551 3564

*** WARNING *** CP= 14.020 TIME= 04:15:44
Meshing of area 23 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.020 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3565 3578 3579 3592

*** WARNING *** CP= 14.070 TIME= 04:15:44
Meshing of area 24 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.070 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3593 3606 3607 3620

*** WARNING *** CP= 14.120 TIME= 04:15:44
Meshing of area 25 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.120 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3621 3634 3635 3648

*** WARNING *** CP= 14.170 TIME= 04:15:44
Meshing of area 26 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.170 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3649 3662 3663 3676

NUMBER OF AREAS MESHED = 17
MAXIMUM NODE NUMBER = 3991
MAXIMUM ELEMENT NUMBER = 3690

Create mesh in UCF inner shell
(L's 105,108)

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 21 STEP 1

9 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 105 KP1= 15 KP2= 24

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 30 STEP 1

9 LINES (OF 219 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 108 KP1= 24 KP2= 33

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 31 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 3 TO 4 IN STEPS OF 1

*** WARNING *** CP= 15.170 TIME= 04:15:45
Meshing of area 3 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.170 TIME= 04:15:45
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3718	3719	3720	3721	3722	3723	3724	3725	3726	3727
3728	3729	3730	3731	3732	3733	3734	3735	3738	3763
3764	3765	3766	3767	3768	3769	3770	3771	3772	3773
3774	3799	3800	3801	3802	3803	3804	3805	3806	3807
3808	3809	3810	3837	3838	3839	3840	3841	3842	3843
3844	3845	3846	3847	3848	3849	3850	3851	3852	3853
3854	3855								

*** WARNING *** CP= 16.050 TIME= 04:15:46
Meshing of area 4 produced 62 poorly shaped elements.

*** NOTE *** CP= 16.050 TIME= 04:15:46
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3910	3911	3912	3913	3914	3915	3916	3917	3918	3919
3920	3921	3922	3923	3924	3925	3926	3927	3930	3955
3956	3957	3958	3959	3960	3961	3962	3963	3964	3965
3966	3991	3992	3993	3994	3995	3996	3997	3998	3999
4000	4001	4002	4029	4030	4031	4032	4033	4034	4035
4036	4037	4038	4039	4040	4041	4042	4043	4044	4045
4046	4047								

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4483
MAXIMUM ELEMENT NUMBER = 4074

Delete concatenated lines
(L's freed up 105,108)

LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 64, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 15

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 1 TO 2 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4870
MAXIMUM ELEMENT NUMBER = 4458

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2190 USED FOR NODES 3598
NODE 2185 USED FOR NODES 3588
NODE 2871 USED FOR NODES 3734
NODE 2186 USED FOR NODES 3602
NODE 2188 USED FOR NODES 3600
NODE 2187 USED FOR NODES 3601
NODE 2189 USED FOR NODES 3599
NODE 2191 USED FOR NODES 3597
NODE 2831 USED FOR NODES 3717
NODE 2192 USED FOR NODES 3596
NODE 2193 USED FOR NODES 3595
NODE 2194 USED FOR NODES 3594
NODE 2198 USED FOR NODES 3590
NODE 2196 USED FOR NODES 3592
NODE 2197 USED FOR NODES 3591
NODE 2195 USED FOR NODES 3593
NODE 2860 USED FOR NODES 3745
NODE 2862 USED FOR NODES 3743
NODE 2863 USED FOR NODES 3742
NODE 2864 USED FOR NODES 3741
NODE 2865 USED FOR NODES 3740
NODE 2866 USED FOR NODES 3739
NODE 2867 USED FOR NODES 3738
NODE 2868 USED FOR NODES 3737
NODE 2861 USED FOR NODES 3744
NODE 2870 USED FOR NODES 3735
NODE 2872 USED FOR NODES 3733
NODE 2869 USED FOR NODES 3736
NODE 3224 USED FOR NODES 3659
NODE 3518 USED FOR NODES 3676
NODE 3225 USED FOR NODES 3658
NODE 3517 USED FOR NODES 3677
NODE 3226 USED FOR NODES 3657
NODE 3516 USED FOR NODES 3678
NODE 3227 USED FOR NODES 3656
NODE 3515 USED FOR NODES 3679
NODE 3228 USED FOR NODES 3655
NODE 3514 USED FOR NODES 3680
NODE 3229 USED FOR NODES 3654
NODE 3513 USED FOR NODES 3681
NODE 3230 USED FOR NODES 3653
NODE 3512 USED FOR NODES 3682
NODE 3231 USED FOR NODES 3652
NODE 3511 USED FOR NODES 3683

NODE 3232 USED FOR NODES 3651
 NODE 3510 USED FOR NODES 3684
 NODE 3233 USED FOR NODES 3650
 NODE 3509 USED FOR NODES 3685
 NODE 3234 USED FOR NODES 3649
 NODE 3508 USED FOR NODES 3686
 NODE 3235 USED FOR NODES 3648
 NODE 3507 USED FOR NODES 3687
 NODE 3236 USED FOR NODES 3647
 NODE 3506 USED FOR NODES 3688
 NODE 3505 USED FOR NODES 3674
 NODE 3196 USED FOR NODES 3631

*** WARNING *** CP= 20.190 TIME= 04:15:50
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 20.500 TIME= 04:15:50
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.500 TIME= 04:15:50
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.510 TIME= 04:15:50
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.510 TIME= 04:15:50
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
 IN AREAS 5 TO 6 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 5124
 MAXIMUM ELEMENT NUMBER = 4752

GENERATE NODES AND ELEMENTS
 IN AREAS 28 TO 34 IN STEPS OF 1
 ** AREA 29 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 30 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 31 MESHED WITH 110 QUADRILATERALS, 8 TRIANGLES **
 ** AREA 32 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 33 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **

NUMBER OF AREAS MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5252

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2213 USED FOR NODES 5167
 NODE 2844 USED FOR NODES 5451
 NODE 2214 USED FOR NODES 5168
 NODE 2843 USED FOR NODES 5450
 NODE 2215 USED FOR NODES 5169
 NODE 2842 USED FOR NODES 5449
 NODE 2216 USED FOR NODES 5170
 NODE 2841 USED FOR NODES 5448
 NODE 2217 USED FOR NODES 5171
 NODE 2840 USED FOR NODES 5447
 NODE 2218 USED FOR NODES 5172
 NODE 2839 USED FOR NODES 5446
 NODE 2219 USED FOR NODES 5173
 NODE 2838 USED FOR NODES 5445
 NODE 2220 USED FOR NODES 5174
 NODE 2837 USED FOR NODES 5444
 NODE 2221 USED FOR NODES 5175
 NODE 2836 USED FOR NODES 5443
 NODE 2835 USED FOR NODES 5442
 NODE 2222 USED FOR NODES 5176
 NODE 2223 USED FOR NODES 5177
 NODE 2834 USED FOR NODES 5441
 NODE 2224 USED FOR NODES 5178
 NODE 2833 USED FOR NODES 5440
 NODE 2225 USED FOR NODES 5179
 NODE 2832 USED FOR NODES 5439
 NODE 3205 USED FOR NODES 5235
 NODE 3197 USED FOR NODES 5227
 NODE 3199 USED FOR NODES 5229
 NODE 3200 USED FOR NODES 5230
 NODE 3539 USED FOR NODES 5384
 NODE 3542 USED FOR NODES 5387
 NODE 3201 USED FOR NODES 5231
 NODE 3540 USED FOR NODES 5385
 NODE 3202 USED FOR NODES 5232
 NODE 3203 USED FOR NODES 5233
 NODE 3537 USED FOR NODES 5382
 NODE 3204 USED FOR NODES 5234
 NODE 3209 USED FOR NODES 5239
 NODE 3534 USED FOR NODES 5379
 NODE 3545 USED FOR NODES 5390
 NODE 3207 USED FOR NODES 5237
 NODE 3541 USED FOR NODES 5386
 NODE 3208 USED FOR NODES 5238
 NODE 3544 USED FOR NODES 5389
 NODE 3536 USED FOR NODES 5381
 NODE 3538 USED FOR NODES 5383
 NODE 3546 USED FOR NODES 5391
 NODE 3198 USED FOR NODES 5228
 NODE 3206 USED FOR NODES 5236
 NODE 3535 USED FOR NODES 5380
 NODE 3543 USED FOR NODES 5388

*** WARNING *** CP= 25.880 TIME= 04:15:56
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 26.220 TIME= 04:15:56
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the

tolerance (2.335E-06).

*** WARNING *** CP= 26.220 TIME= 04:15:56
Keypoints 30 and 154 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (9.368347144E-06) exceeds the
tolerance (2.335E-06).

*** WARNING *** CP= 26.230 TIME= 04:15:56
Keypoints 27 and 170 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (9.368347144E-06) exceeds the
tolerance (2.335E-06).

*** WARNING *** CP= 26.230 TIME= 04:15:56
Keypoints 21 and 163 cannot be merged because:
(1) One or both of them belong to lines.
(2) The distance between them (9.368347144E-06) exceeds the
tolerance (2.335E-06).

Create radiation surface elements
Basket spaces

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 13 TO 21 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5308

GENERATE NODES AND ELEMENTS
ON LINES 22 TO 30 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5364

GENERATE NODES AND ELEMENTS
ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5392

GENERATE NODES AND ELEMENTS
ON LINES 37 TO 38 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5420

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 92 TO 98 IN STEPS OF 1

NUMBER OF LINES MESHED = 7
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5504

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 68 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5518

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 78 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5546

GENERATE NODES AND ELEMENTS
ON LINES 89 TO 90 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5560

***** ROUTINE COMPLETED ***** CP = 26.510

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

/SHOW SWITCH PLOTS TO FILE meshfull.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshfull.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4766 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

/SHOW SWITCH PLOTS TO FILE meshgap.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshgap.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

/SHOW SWITCH PLOTS TO FILE meshrad.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshrad.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:16:02 JUN 12, 1995 CP= 32.100
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

310 NODES (OF 5339 DEFINED) SELECTED FROM
308 SELECTED ELEMENTS BY NSLE COMMAND.

STEFAN-BOLTZMANN CONSTANT= .56700E-07

TWO DIMENSIONAL PLANE GEOMETRY (UNIT THICKNESS)

HIDDEN SURFACE (SLOW) METHOD
NUMBER OF ZONES= 800

WRITE RADIATION MATRIX TO FILE= spaces.sub

*** WARNING *** CP= 32.370 TIME= 04:16:03
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation losses.

NUMBER OF ELEMENTS= 308 NUMBER OF NODES= 310

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5338 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 47.000

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:16:18 JUN 12, 1995 CP= 47.000
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE SET TO 18

SUPERELEMENT 5561 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 5561

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 5561
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

29 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 47.060 TIME= 04:16:18
Nodes cannot be cleared from line 13 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.060 TIME= 04:16:18
Nodes cannot be cleared from line 15 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.070 TIME= 04:16:18
Nodes cannot be cleared from line 17 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.070 TIME= 04:16:18
Nodes cannot be cleared from line 19 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.080 TIME= 04:16:18
Nodes cannot be cleared from line 21 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.080 TIME= 04:16:18
Nodes cannot be cleared from line 22 because area 31 is meshed. Only

elements are deleted.

*** NOTE *** CP= 47.090 TIME= 04:16:18
Nodes cannot be cleared from line 24 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.090 TIME= 04:16:18
Nodes cannot be cleared from line 26 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.100 TIME= 04:16:18
Nodes cannot be cleared from line 28 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.100 TIME= 04:16:18
Nodes cannot be cleared from line 30 because area 34 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.110 TIME= 04:16:18
Nodes cannot be cleared from line 33 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.110 TIME= 04:16:18
Nodes cannot be cleared from line 34 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.120 TIME= 04:16:18
Nodes cannot be cleared from line 37 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.120 TIME= 04:16:18
Nodes cannot be cleared from line 38 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.130 TIME= 04:16:18
Nodes cannot be cleared from line 67 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.130 TIME= 04:16:18
Nodes cannot be cleared from line 68 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.140 TIME= 04:16:18
Nodes cannot be cleared from line 75 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.140 TIME= 04:16:18
Nodes cannot be cleared from line 76 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.140 TIME= 04:16:18
Nodes cannot be cleared from line 77 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.150 TIME= 04:16:18
Nodes cannot be cleared from line 78 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.150 TIME= 04:16:18
Nodes cannot be cleared from line 89 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.160 TIME= 04:16:18
Nodes cannot be cleared from line 90 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.160 TIME= 04:16:18
Nodes cannot be cleared from line 92 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.160 TIME= 04:16:18
Nodes cannot be cleared from line 93 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.170 TIME= 04:16:18
Nodes cannot be cleared from line 94 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.170 TIME= 04:16:18
Nodes cannot be cleared from line 95 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.180 TIME= 04:16:18
Nodes cannot be cleared from line 96 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.190 TIME= 04:16:18
Nodes cannot be cleared from line 97 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.190 TIME= 04:16:18
Nodes cannot be cleared from line 98 because area 34 is meshed. Only
elements are deleted.

CLEARED 29 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 47.200

Set solution parameters and apply B.C.'s

Solve steady-state for initial conditions
with WP surface equal to drift ambient
temperature from repository model.

***** ANSYS SOLUTION ROUTINE *****

PERFORM A TRANSIENT ANALYSIS
THIS WILL BE A NEW ANALYSIS

USE THE DEFAULT NEWTON-RAPHSON OPTION FOR ALL DOFS
AND USE THE DEFAULT ADAPTIVE DESCENT OPTION

*** NOTE *** CP= 47.210 TIME= 04:16:18
Damping (if present) may be ignored only in reduced transient analyses.

PERFORM A FULL TRANSIENT ANALYSIS

TEMPERATURE OFFSET FROM ABSOLUTE ZERO= 273.150

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)

RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 5538 BY 1
REAL= 26.1414001 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .10000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

*** NOTE *** CP= 48.630 TIME= 04:16:20
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:16:20 JUN 12, 1995 CP= 48.630
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
DEGREES OF FREEDOM.TEMP
ANALYSIS TYPETRANSIENT
SOLUTION METHOD.FULL

OFFSET TEMPERATURE FROM SOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTION PROGRAM CHOSEN

*** NOTE *** CP= 49.680 TIME= 04:16:21
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 50.180 TIME= 04:16:21
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER. 1
 TIME AT END OF THE LOAD STEP.10000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGED YES (EXIT)
 CONVERGENCE CONTROLS. USE DEFAULTS
 PRINT OUTPUT CONTROLS NO PRINTOUT
 DATABASE OUTPUT CONTROLS. ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 4108.7

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .33488	IXX = 641.0	IXX = 641.0
YC = .13217E-10	IYY = 641.0	IYY = 180.3
ZC = .00000E+00	IZZ = 1282.	IZZ = 821.2
	IXY = -.1213E-07	IXY = .6051E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	4108.66

Range of element maximum matrix coefficients in global coordinates
 Maximum= 2640.26464 at element 3393.
 Minimum= 1.261859514E-09 at element 5561.

*** WARNING *** CP= 70.420 TIME= 04:16:43
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES | TYPE | NUMBER | ENAME | TOTAL CP | AVE CP | |------|--------|-------|----------|--------| |------|--------|-------|----------|--------|

1	5252	PLANE55	13.230	.003
18	1	MATRIX50	.120	.120

Time at end of element matrix formulation CP= 70.42.
 HT FLOW CONVERGENCE VALUE= 9672. CRITERION= 9.672

Estimated number of active DOF= 5210.

Maximum wavefront= 384.

Time at end of matrix triangularization CP= 96.14.
 Equation solver maximum pivot= 5623.89496 at node 3957 TEMP.
 Equation solver minimum pivot= 0.172720498 at node 5125 TEMP.
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 191.7
 HT FLOW CONVERGENCE VALUE= 73.53 CRITERION= .3497
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -31.33
 HT FLOW CONVERGENCE VALUE= 5.980 CRITERION= .3443
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.879
 HT FLOW CONVERGENCE VALUE= .3130 CRITERION= .3424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	7.280	.001
18	1	MATRIX50	.160	.160

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	1.060	.000
18	1	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 3
 *** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS
 ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 5210
 R.M.S. WAVEFRONT SIZE = 176.6

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096
 2.594 MB WRITTEN ON ELEMENT MATRIX FILE: ucf21h.emat
 2.359 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf21h.esav
 6.938 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf21h.tri
 .016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf21h.dsub
 2.859 MB WRITTEN ON RESULTS FILE: ucf21h.rth
 Solve steady-state for initial conditions
 with WP surface temperatures from repository
 steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 6 TO 6 STEP 1
 1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 7 STEP 1
 2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
 RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
 2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
 RANGE 1 TO 5538 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 129

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.140 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.194 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.256 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .20000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** WARNING *** CP= 215.670 TIME= 04:19:14
This load step will be a static (steady-state) step.

*** NOTE *** CP= 216.160 TIME= 04:19:14
The step data was checked and warning messages were found.
Please review output or errors file (ucf21h.err) for these warning
messages.

*** NOTE *** CP= 216.160 TIME= 04:19:14
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:19:14 JUN 12, 1995 CP= 216.170
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 2
 TIME AT END OF THE LOAD STEP.20000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1592E+05 CRITERION= 15.92
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.25
 HT FLOW CONVERGENCE VALUE= 36.86 CRITERION= .3392
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -9.290
 HT FLOW CONVERGENCE VALUE= 2.642 CRITERION= .3370
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9073
 HT FLOW CONVERGENCE VALUE= .1194 CRITERION= .3363 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
 *** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 6
 *** TIME = .200000E-05 TIME INC = .100000E-05

Set time integration parameters

INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

USE AUTOMATIC TIME STEPPING THIS LOAD STEP
 Time substep ranges from 10 sec to 1/4 loadstep

USE 10 SUBSTEPS INITIALLY THIS LOAD STEP FOR ALL DOFS
 FOR AUTOMATIC TIME STEPPING:

USE 40 SUBSTEPS AS A MAXIMUM
 USE 5 SUBSTEPS AS A MINIMUM
 USE THE FINAL TIME STEP SIZE OF THE PREVIOUS LOAD STEP
 AS THE STARTING TIME STEP SIZE.
 Begin Transient
 Apply loads and solve for 0 to .9 years

*DO LOOP ON PARAMETER= TM FROM 31.558 TO .28402E+08 BY .31558E+07

TIME= 31.558

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5361 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.140 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.194 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.256 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 343.910 TIME= 04:21:24
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:21:24 JUN 12, 1995 CP= 343.910
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 3
TIME AT END OF THE LOAD STEP. 31.558
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1194 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1784E-03
HT FLOW CONVERGENCE VALUE= .3751E-05 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1850 OSCILLATION LIMIT = .1459
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2213 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2012E-03
HT FLOW CONVERGENCE VALUE= .5659E-05 CRITERION= .3363 <<< CONVERGED


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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .9759E-01 OSCILLATION LIMIT = .7699E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .2120 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3201E-03
HT FLOW CONVERGENCE VALUE= .1158E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 9
*** TIME = 3.94470 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .2480E-01 OSCILLATION LIMIT = .5869E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .2003 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1865E-03
HT FLOW CONVERGENCE VALUE= .2589E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 10
*** TIME = 10.2562 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .4982E-02 OSCILLATION LIMIT = .3144E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1966 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9417E-04
HT FLOW CONVERGENCE VALUE= .2329E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 11
*** TIME = 16.5677 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .2185E-02 OSCILLATION LIMIT = .1379E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1924 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9398E-04
HT FLOW CONVERGENCE VALUE= .2252E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 12
*** TIME = 22.8793 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1794E-02 OSCILLATION LIMIT = .1132E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1912 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9379E-04
HT FLOW CONVERGENCE VALUE= .2212E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 13
*** TIME = 29.1908 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1605E-02 OSCILLATION LIMIT = .1013E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .1880 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3512E-04
HT FLOW CONVERGENCE VALUE= .8218E-05 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 8 COMPLETED. CUM ITER = 14
*** TIME = 31.5576 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .1526E-02 OSCILLATION LIMIT = .3612E-02

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:30:08 JUN 12, 1995 CP= 858.890
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 271.6 CRITERION= .4323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7924
 HT FLOW CONVERGENCE VALUE= .5089 CRITERION= .3345
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7899E-01
 HT FLOW CONVERGENCE VALUE= .2234E-01 CRITERION= .3346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 16
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1040E-04 OSCILLATION LIMIT = .8205
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 272.1 CRITERION= .4311
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7970
 HT FLOW CONVERGENCE VALUE= .6530 CRITERION= .3352
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1031
 HT FLOW CONVERGENCE VALUE= .2428E-01 CRITERION= .3353 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5027E-06 OSCILLATION LIMIT = .3966E-01
 *** AUTO TIME STEP: NEXT TIME INC = .23668E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 814.8 CRITERION= .8811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.377
 HT FLOW CONVERGENCE VALUE= 1.702 CRITERION= .3341
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694
 HT FLOW CONVERGENCE VALUE= .9827E-01 CRITERION= .3342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .1175E-05 OSCILLATION LIMIT = .2781
 *** AUTO TIME STEP: NEXT TIME INC = .42553E+06 INCREASED (FACTOR = 1.7979)

HT FLOW CONVERGENCE VALUE= 1465. CRITERION= 1.503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 2.913 CRITERION= .3341
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7155
 HT FLOW CONVERGENCE VALUE= .1961 CRITERION= .3341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
 *** TIME = 820031. TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9366E-06 OSCILLATION LIMIT = .3985
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1464. CRITERION= 1.502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.046 CRITERION= .3327
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7121
 HT FLOW CONVERGENCE VALUE= .2009 CRITERION= .3327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 24
 *** TIME = .124556E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .1012E-05 OSCILLATION LIMIT = .4308
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1464. CRITERION= 1.501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.208 CRITERION= .3326
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7202
 HT FLOW CONVERGENCE VALUE= .2070 CRITERION= .3326 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 26
 *** TIME = .167109E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9279E-06 OSCILLATION LIMIT = .3948
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1463. CRITERION= 1.501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.299 CRITERION= .3313

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7198
 HT FLOW CONVERGENCE VALUE= .2094 CRITERION= .3313 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 28
 *** TIME = .209662E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .1020E-05 OSCILLATION LIMIT = .4339
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1463. CRITERION= 1.500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.255 CRITERION= .3312
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7238
 HT FLOW CONVERGENCE VALUE= .2137 CRITERION= .3312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 30
 *** TIME = .252215E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9296E-06 OSCILLATION LIMIT = .3956
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1463. CRITERION= 1.500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.025 CRITERION= .3298
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7159
 HT FLOW CONVERGENCE VALUE= .2070 CRITERION= .3298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 9 COMPLETED. CUM ITER = 32
 *** TIME = .294768E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9889E-06 OSCILLATION LIMIT = .4208
 *** AUTO TIME STEP: NEXT TIME INC = .20811E+06 DECREASED (FACTOR = .4891)

HT FLOW CONVERGENCE VALUE= 715.5 CRITERION= .7877
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.090
 HT FLOW CONVERGENCE VALUE= 1.568 CRITERION= .3301
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3243
 HT FLOW CONVERGENCE VALUE= .9294E-01 CRITERION= .3301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 10 COMPLETED. CUM ITER = 34
 *** TIME = .315579E+07 TIME INC = 208114.
 *** RESPONSE EIGENVALUE = .8294E-06 OSCILLATION LIMIT = .1726

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:46:08 JUN 12, 1995 CP= 1806.900
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 165.2 CRITERION= .3691
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7283
 HT FLOW CONVERGENCE VALUE= .4719 CRITERION= .3308
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1030
 HT FLOW CONVERGENCE VALUE= .2459E-01 CRITERION= .3308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 36
 *** TIME = .336391E+07 TIME INC = 208114.
 *** RESPONSE EIGENVALUE = .2250E-05 OSCILLATION LIMIT = .4682
 *** AUTO STEP TIME: NEXT TIME INC = .20811E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 165.3 CRITERION= .3698
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4498
 HT FLOW CONVERGENCE VALUE= .3183 CRITERION= .3302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 37
 *** TIME = .357202E+07 TIME INC = 208114.
 *** RESPONSE EIGENVALUE = .7298E-05 OSCILLATION LIMIT = 1.519
 *** AUTO TIME STEP: NEXT TIME INC = 78894. DECREASED (FACTOR = .3791)

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HT FLOW CONVERGENCE VALUE= 62.73      CRITERION= .3361
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2280
HT FLOW CONVERGENCE VALUE= .1563      CRITERION= .3304    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 38
*** TIME = .365091E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2786E-05 OSCILLATION LIMIT = .2198
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.78      CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1710
HT FLOW CONVERGENCE VALUE= .1160      CRITERION= .3303    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 39
*** TIME = .372981E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6960E-05 OSCILLATION LIMIT = .5491
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.69      CRITERION= .3362
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1705
HT FLOW CONVERGENCE VALUE= .1323      CRITERION= .3302    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 40
*** TIME = .380870E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2595E-05 OSCILLATION LIMIT = .2048
*** AUTO TIME STEP: NEXT TIME INC = .19264E+06 INCREASED (FACTOR = 2.4418)

HT FLOW CONVERGENCE VALUE= 153.2      CRITERION= .3640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4172
HT FLOW CONVERGENCE VALUE= .3117      CRITERION= .3302    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 41
*** TIME = .400134E+07 TIME INC = 192643.
*** RESPONSE EIGENVALUE = .8600E-06 OSCILLATION LIMIT = .1657
*** AUTO TIME STEP: NEXT TIME INC = .57793E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 459.4      CRITERION= .5657
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.250
HT FLOW CONVERGENCE VALUE= .9164      CRITERION= .3303
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2183
HT FLOW CONVERGENCE VALUE= .6991E-01 CRITERION= .3296    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 43
*** TIME = .457927E+07 TIME INC = 577928.
*** RESPONSE EIGENVALUE = .2131E-05 OSCILLATION LIMIT = 1.231
*** AUTO TIME STEP: NEXT TIME INC = .23469E+06 DECREASED (FACTOR = .4061)

HT FLOW CONVERGENCE VALUE= 187.0      CRITERION= .3789
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5073
HT FLOW CONVERGENCE VALUE= .3742      CRITERION= .3297
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8114E-01
HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .3294    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 45
*** TIME = .481396E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1686E-05 OSCILLATION LIMIT = .3957
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.0      CRITERION= .3788
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5072
HT FLOW CONVERGENCE VALUE= .3916      CRITERION= .3295
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8369E-01
HT FLOW CONVERGENCE VALUE= .2553E-01 CRITERION= .3292    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 47
*** TIME = .504864E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1344E-05 OSCILLATION LIMIT = .3154
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.3      CRITERION= .3788

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5077
 HT FLOW CONVERGENCE VALUE= .3763 CRITERION= .3294
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8137E-01
 HT FLOW CONVERGENCE VALUE= .2503E-01 CRITERION= .3291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 49
 *** TIME = .528333E+07 TIME INC = 234686.
 *** RESPONSE EIGENVALUE = .1590E-05 OSCILLATION LIMIT = .3732
 *** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.3 CRITERION= .3787
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5072
 HT FLOW CONVERGENCE VALUE= .3883 CRITERION= .3291
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8276E-01
 HT FLOW CONVERGENCE VALUE= .2562E-01 CRITERION= .3289 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 51
 *** TIME = .551802E+07 TIME INC = 234686.
 *** RESPONSE EIGENVALUE = .1453E-05 OSCILLATION LIMIT = .3411
 *** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.6 CRITERION= .3786
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5078
 HT FLOW CONVERGENCE VALUE= .3799 CRITERION= .3290
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8171E-01
 HT FLOW CONVERGENCE VALUE= .2519E-01 CRITERION= .3288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 12 COMPLETED. CUM ITER = 53
 *** TIME = .575270E+07 TIME INC = 234686.
 *** RESPONSE EIGENVALUE = .1468E-05 OSCILLATION LIMIT = .3445
 *** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.7 CRITERION= .3786
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5072
 HT FLOW CONVERGENCE VALUE= .3905 CRITERION= .3288
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8218E-01
 HT FLOW CONVERGENCE VALUE= .2549E-01 CRITERION= .3285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 13 COMPLETED. CUM ITER = 55
 *** TIME = .598739E+07 TIME INC = 234686.
 *** RESPONSE EIGENVALUE = .1496E-05 OSCILLATION LIMIT = .3510
 *** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.9 CRITERION= .3785
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5079
 HT FLOW CONVERGENCE VALUE= .3877 CRITERION= .3287
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8181E-01
 HT FLOW CONVERGENCE VALUE= .2580E-01 CRITERION= .3285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 14 COMPLETED. CUM ITER = 57
 *** TIME = .622208E+07 TIME INC = 234686.
 *** RESPONSE EIGENVALUE = .1412E-05 OSCILLATION LIMIT = .3315
 *** AUTO STEP TIME: NEXT TIME INC = 89475. DECREASED (FACTOR = .3813)

HT FLOW CONVERGENCE VALUE= 71.67 CRITERION= .3362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1934
 HT FLOW CONVERGENCE VALUE= .1522 CRITERION= .3284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 15 COMPLETED. CUM ITER = 58
 *** TIME = .631155E+07 TIME INC = 89474.9
 *** RESPONSE EIGENVALUE = .7186E-06 OSCILLATION LIMIT = .6429E-01

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:07:05 JUN 12, 1995 CP= 3046.180
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 46.34 CRITERION= .3316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1372
 HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .3286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 59
 *** TIME = .640103E+07 TIME INC = 89474.9
 *** RESPONSE EIGENVALUE = .1169E-05 OSCILLATION LIMIT = .1046
 *** AUTO STEP TIME: NEXT TIME INC = 89475. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.23 CRITERION= .3318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1250
 HT FLOW CONVERGENCE VALUE= .8826E-01 CRITERION= .3283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 60
 *** TIME = .649050E+07 TIME INC = 89474.9
 *** RESPONSE EIGENVALUE = .6253E-05 OSCILLATION LIMIT = .5595
 *** AUTO STEP TIME: NEXT TIME INC = 89475. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.36 CRITERION= .3316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1265
 HT FLOW CONVERGENCE VALUE= .9203E-01 CRITERION= .3284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 61
 *** TIME = .657998E+07 TIME INC = 89474.9
 *** RESPONSE EIGENVALUE = .2063E-05 OSCILLATION LIMIT = .1846
 *** AUTO TIME STEP: NEXT TIME INC = .2424E+06 INCREASED (FACTOR = 2.7092)

HT FLOW CONVERGENCE VALUE= 125.3 CRITERION= .3515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3387
 HT FLOW CONVERGENCE VALUE= .2586 CRITERION= .3282 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 62
 *** TIME = .682239E+07 TIME INC = 242410.
 *** RESPONSE EIGENVALUE = .1041E-05 OSCILLATION LIMIT = .2523
 *** AUTO TIME STEP: NEXT TIME INC = .48038E+06 INCREASED (FACTOR = 1.9817)

HT FLOW CONVERGENCE VALUE= 248.7 CRITERION= .4118
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6726
 HT FLOW CONVERGENCE VALUE= .5134 CRITERION= .3283
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1110
 HT FLOW CONVERGENCE VALUE= .3724E-01 CRITERION= .3279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 64
 *** TIME = .730276E+07 TIME INC = 480378.
 *** RESPONSE EIGENVALUE = .2717E-05 OSCILLATION LIMIT = 1.305
 *** AUTO TIME STEP: NEXT TIME INC = .18404E+06 DECREASED (FACTOR = .3831)

HT FLOW CONVERGENCE VALUE= 95.32 CRITERION= .3415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2571
 HT FLOW CONVERGENCE VALUE= .2003 CRITERION= .3277 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 65
 *** TIME = .748681E+07 TIME INC = 184042.
 *** RESPONSE EIGENVALUE = .9592E-06 OSCILLATION LIMIT = .1765
 *** AUTO STEP TIME: NEXT TIME INC = .18404E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.48 CRITERION= .3414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2589
 HT FLOW CONVERGENCE VALUE= .2007 CRITERION= .3279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 66
 *** TIME = .767085E+07 TIME INC = 184042.
 *** RESPONSE EIGENVALUE = .9549E-06 OSCILLATION LIMIT = .1757
 *** AUTO TIME STEP: NEXT TIME INC = .52361E+06 INCREASED (FACTOR = 2.8451)

HT FLOW CONVERGENCE VALUE= 271.5 CRITERION= .4257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7315
 HT FLOW CONVERGENCE VALUE= .5782 CRITERION= .3276

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EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1208
HT FLOW CONVERGENCE VALUE= .4144E-01 CRITERION= .3272 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 68
*** TIME = .819446E+07 TIME INC = 523609.
*** RESPONSE EIGENVALUE = .3130E-05 OSCILLATION LIMIT = 1.639
*** AUTO TIME STEP: NEXT TIME INC = .17454E+06 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 90.70 CRITERION= .3395
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2450
HT FLOW CONVERGENCE VALUE= .1997 CRITERION= .3274 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 69
*** TIME = .836899E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .6101E-06 OSCILLATION LIMIT = .1065
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.61 CRITERION= .3397
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2438
HT FLOW CONVERGENCE VALUE= .1955 CRITERION= .3271 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 70
*** TIME = .854353E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .1788E-05 OSCILLATION LIMIT = .3120
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.77 CRITERION= .3395
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2450
HT FLOW CONVERGENCE VALUE= .1887 CRITERION= .3272 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 71
*** TIME = .871807E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .2144E-05 OSCILLATION LIMIT = .3742
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.68 CRITERION= .3395
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2438
HT FLOW CONVERGENCE VALUE= .1945 CRITERION= .3269 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 72
*** TIME = .889260E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .1898E-05 OSCILLATION LIMIT = .3313
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.84 CRITERION= .3393
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2450
HT FLOW CONVERGENCE VALUE= .1922 CRITERION= .3270 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 13 COMPLETED. CUM ITER = 73
*** TIME = .906714E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .1855E-05 OSCILLATION LIMIT = .3237
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.76 CRITERION= .3393
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2438
HT FLOW CONVERGENCE VALUE= .1938 CRITERION= .3267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 14 COMPLETED. CUM ITER = 74
*** TIME = .924167E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .2015E-05 OSCILLATION LIMIT = .3517
*** AUTO TIME STEP: NEXT TIME INC = .11282E+06 DECREASED (FACTOR = .6464)

HT FLOW CONVERGENCE VALUE= 58.80 CRITERION= .3319
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1589
HT FLOW CONVERGENCE VALUE= .1223 CRITERION= .3267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 15 COMPLETED. CUM ITER = 75
*** TIME = .935449E+07 TIME INC = 112818.
*** RESPONSE EIGENVALUE = .2856E-05 OSCILLATION LIMIT = .3222
*** AUTO STEP TIME: NEXT TIME INC = .11282E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 58.69 CRITERION= .3320
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1576
HT FLOW CONVERGENCE VALUE= .1243 CRITERION= .3265 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 16 COMPLETED. CUM ITER = 76
*** TIME = .946731E+07 TIME INC = 112818.
*** RESPONSE EIGENVALUE = .2710E-05 OSCILLATION LIMIT = .3058

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:25:29 JUN 12, 1995 CP= 4133.270
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 44.86 CRITERION= .3296
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1219
HT FLOW CONVERGENCE VALUE= .9765E-01 CRITERION= .3266 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 77
*** TIME = .958013E+07 TIME INC = 112818.
*** RESPONSE EIGENVALUE = .1576E-05 OSCILLATION LIMIT = .1778
*** AUTO STEP TIME: NEXT TIME INC = .11282E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.73 CRITERION= .3297
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
HT FLOW CONVERGENCE VALUE= .9301E-01 CRITERION= .3264 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 78
*** TIME = .969295E+07 TIME INC = 112818.
*** RESPONSE EIGENVALUE = .4221E-05 OSCILLATION LIMIT = .4762
*** AUTO STEP TIME: NEXT TIME INC = .11282E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.87 CRITERION= .3294
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1217
HT FLOW CONVERGENCE VALUE= .9548E-01 CRITERION= .3265 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 79
*** TIME = .980577E+07 TIME INC = 112818.
*** RESPONSE EIGENVALUE = .2081E-05 OSCILLATION LIMIT = .2347
*** AUTO TIME STEP: NEXT TIME INC = .24030E+06 INCREASED (FACTOR = 2.1300)

HT FLOW CONVERGENCE VALUE= 95.36 CRITERION= .3401
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
HT FLOW CONVERGENCE VALUE= .2061 CRITERION= .3262 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 80
*** TIME = .100461E+08 TIME INC = 240301.
*** RESPONSE EIGENVALUE = .1436E-05 OSCILLATION LIMIT = .3452
*** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.54 CRITERION= .3399
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2572
HT FLOW CONVERGENCE VALUE= .2034 CRITERION= .3263 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 81
*** TIME = .102864E+08 TIME INC = 240301.
*** RESPONSE EIGENVALUE = .1833E-05 OSCILLATION LIMIT = .4406
*** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.44 CRITERION= .3400
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
HT FLOW CONVERGENCE VALUE= .2002 CRITERION= .3260 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 82
*** TIME = .105267E+08 TIME INC = 240301.

*** RESPONSE EIGENVALUE = .2608E-05 OSCILLATION LIMIT = .6266
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.61 CRITERION= .3397
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2571
 HT FLOW CONVERGENCE VALUE= .2018 CRITERION= .3260 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 7 COMPLETED. CUM ITER = 83
 *** TIME = .107670E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .1929E-05 OSCILLATION LIMIT = .4635
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.52 CRITERION= .3397
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
 HT FLOW CONVERGENCE VALUE= .2002 CRITERION= .3257 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 8 COMPLETED. CUM ITER = 84
 *** TIME = .110073E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .2433E-05 OSCILLATION LIMIT = .5846
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.69 CRITERION= .3395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2570
 HT FLOW CONVERGENCE VALUE= .2012 CRITERION= .3258 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 9 COMPLETED. CUM ITER = 85
 *** TIME = .112476E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .2018E-05 OSCILLATION LIMIT = .4849
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.60 CRITERION= .3395
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
 HT FLOW CONVERGENCE VALUE= .2002 CRITERION= .3254 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 86
 *** TIME = .114879E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .2352E-05 OSCILLATION LIMIT = .5652
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.77 CRITERION= .3392
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2570
 HT FLOW CONVERGENCE VALUE= .1996 CRITERION= .3255 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 87
 *** TIME = .117282E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .2051E-05 OSCILLATION LIMIT = .4929
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.68 CRITERION= .3393
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
 HT FLOW CONVERGENCE VALUE= .1982 CRITERION= .3252 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 88
 *** TIME = .119685E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .2311E-05 OSCILLATION LIMIT = .5554
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.85 CRITERION= .3390
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2570
 HT FLOW CONVERGENCE VALUE= .1972 CRITERION= .3252 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 89
 *** TIME = .122088E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .2064E-05 OSCILLATION LIMIT = .4960
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.76 CRITERION= .3390
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
 HT FLOW CONVERGENCE VALUE= .1959 CRITERION= .3249 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 90
 *** TIME = .124491E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .2285E-05 OSCILLATION LIMIT = .5491
 *** AUTO TIME STEP: NEXT TIME INC = .17399E+06 DECREASED (FACTOR = .7241)

HT FLOW CONVERGENCE VALUE= 69.48 CRITERION= .3322
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1865
 HT FLOW CONVERGENCE VALUE= .1397 CRITERION= .3249 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 91
 *** TIME = .126231E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2873E-05 OSCILLATION LIMIT = .4999

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:41:47 JUN 12, 1995 CP= 5095.070
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 56.00 CRITERION= .3297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
 HT FLOW CONVERGENCE VALUE= .1126 CRITERION= .3247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 92
 *** TIME = .127971E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2954E-05 OSCILLATION LIMIT = .5139
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.14 CRITERION= .3295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
 HT FLOW CONVERGENCE VALUE= .1110 CRITERION= .3247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 93
 *** TIME = .129711E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .3022E-05 OSCILLATION LIMIT = .5258
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.03 CRITERION= .3295
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
 HT FLOW CONVERGENCE VALUE= .1123 CRITERION= .3245 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 94
 *** TIME = .131450E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2625E-05 OSCILLATION LIMIT = .4567
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.16 CRITERION= .3293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
 HT FLOW CONVERGENCE VALUE= .1111 CRITERION= .3245 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 95
 *** TIME = .133190E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2707E-05 OSCILLATION LIMIT = .4710
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.06 CRITERION= .3294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
 HT FLOW CONVERGENCE VALUE= .1114 CRITERION= .3243 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 96
 *** TIME = .134930E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2789E-05 OSCILLATION LIMIT = .4853
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.19 CRITERION= .3291
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508

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HT FLOW CONVERGENCE VALUE= .1112      CRITERION= .3244      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 97
*** TIME = .136670E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2605E-05 OSCILLATION LIMIT = .4532
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.09      CRITERION= .3292
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1111      CRITERION= .3241      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 98
*** TIME = .138410E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2818E-05 OSCILLATION LIMIT = .4902
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.22      CRITERION= .3289
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1105      CRITERION= .3242      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 99
*** TIME = .140150E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2573E-05 OSCILLATION LIMIT = .4477
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.11      CRITERION= .3290
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1101      CRITERION= .3239      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 100
*** TIME = .141890E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2810E-05 OSCILLATION LIMIT = .4889
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.24      CRITERION= .3288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1103      CRITERION= .3240      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 101
*** TIME = .143630E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2562E-05 OSCILLATION LIMIT = .4458
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.14      CRITERION= .3288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1100      CRITERION= .3237      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 102
*** TIME = .145370E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2794E-05 OSCILLATION LIMIT = .4862
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.27      CRITERION= .3286
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1101      CRITERION= .3238      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 103
*** TIME = .147110E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2554E-05 OSCILLATION LIMIT = .4444
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.17      CRITERION= .3286
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1096      CRITERION= .3235      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 104
*** TIME = .148849E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2777E-05 OSCILLATION LIMIT = .4831
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 56.30 CRITERION= .3284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1507
 HT FLOW CONVERGENCE VALUE= .1099 CRITERION= .3236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 105
 *** TIME = .150589E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2549E-05 OSCILLATION LIMIT = .4434
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.20 CRITERION= .3284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
 HT FLOW CONVERGENCE VALUE= .1095 CRITERION= .3234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 106
 *** TIME = .152329E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2760E-05 OSCILLATION LIMIT = .4802
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.32 CRITERION= .3282
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1507
 HT FLOW CONVERGENCE VALUE= .1099 CRITERION= .3234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 107
 *** TIME = .154069E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2542E-05 OSCILLATION LIMIT = .4423
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.22 CRITERION= .3283
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
 HT FLOW CONVERGENCE VALUE= .1096 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 108
 *** TIME = .155809E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2743E-05 OSCILLATION LIMIT = .4772
 *** AUTO TIME STEP: NEXT TIME INC = 98963. DECREASED (FACTOR = .5688)

HT FLOW CONVERGENCE VALUE= 32.09 CRITERION= .3248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8628E-01
 HT FLOW CONVERGENCE VALUE= .6068E-01 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 18 COMPLETED. CUM ITER = 109
 *** TIME = .156799E+08 TIME INC = 98962.6
 *** RESPONSE EIGENVALUE = .4416E-05 OSCILLATION LIMIT = .4370
 *** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.97 CRITERION= .3248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8522E-01
 HT FLOW CONVERGENCE VALUE= .6096E-01 CRITERION= .3230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 19 COMPLETED. CUM ITER = 110
 *** TIME = .157788E+08 TIME INC = 98962.6
 *** RESPONSE EIGENVALUE = .3945E-05 OSCILLATION LIMIT = .3905

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:02:23 JUN 12, 1995 CP= 6311.410
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .3242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7324E-01
 HT FLOW CONVERGENCE VALUE= .5377E-01 CRITERION= .3231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 111
 *** TIME = .158778E+08 TIME INC = 98962.6
 *** RESPONSE EIGENVALUE = .2511E-05 OSCILLATION LIMIT = .2485

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.01 CRITERION= .3243
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5099E-01 CRITERION= .3229 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 112

*** TIME = .159768E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .4759E-05 OSCILLATION LIMIT = .4710

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .3241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7313E-01
HT FLOW CONVERGENCE VALUE= .5259E-01 CRITERION= .3230 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 113

*** TIME = .160757E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3193E-05 OSCILLATION LIMIT = .3160

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .3242
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5159E-01 CRITERION= .3228 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 114

*** TIME = .161747E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3928E-05 OSCILLATION LIMIT = .3887

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.14 CRITERION= .3240
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7309E-01
HT FLOW CONVERGENCE VALUE= .5239E-01 CRITERION= .3229 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 115

*** TIME = .162736E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3363E-05 OSCILLATION LIMIT = .3328

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .3241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5165E-01 CRITERION= .3227 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 116

*** TIME = .163726E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3799E-05 OSCILLATION LIMIT = .3759

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.14 CRITERION= .3239
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7306E-01
HT FLOW CONVERGENCE VALUE= .5234E-01 CRITERION= .3228 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 117

*** TIME = .164716E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3356E-05 OSCILLATION LIMIT = .3321

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.03 CRITERION= .3240
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5162E-01 CRITERION= .3226 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 118

*** TIME = .165705E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3733E-05 OSCILLATION LIMIT = .3694

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.15 CRITERION= .3238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7303E-01
HT FLOW CONVERGENCE VALUE= .5230E-01 CRITERION= .3227 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 119

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*** TIME = .166695E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3337E-05    OSCILLATION LIMIT = .3302
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.04    CRITERION= .3239
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5160E-01 CRITERION= .3225    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 120
*** TIME = .167685E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3679E-05    OSCILLATION LIMIT = .3641
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.16    CRITERION= .3237
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7300E-01
    HT FLOW CONVERGENCE VALUE= .5229E-01 CRITERION= .3226    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 121
*** TIME = .168674E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3317E-05    OSCILLATION LIMIT = .3282
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.04    CRITERION= .3238
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5156E-01 CRITERION= .3224    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 122
*** TIME = .169664E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3632E-05    OSCILLATION LIMIT = .3595
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.16    CRITERION= .3236
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7297E-01
    HT FLOW CONVERGENCE VALUE= .5223E-01 CRITERION= .3225    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 123
*** TIME = .170653E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3295E-05    OSCILLATION LIMIT = .3261
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.05    CRITERION= .3236
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5153E-01 CRITERION= .3223    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 124
*** TIME = .171643E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3591E-05    OSCILLATION LIMIT = .3553
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.17    CRITERION= .3235
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7294E-01
    HT FLOW CONVERGENCE VALUE= .5217E-01 CRITERION= .3224    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 125
*** TIME = .172633E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3275E-05    OSCILLATION LIMIT = .3241
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.06    CRITERION= .3235
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5143E-01 CRITERION= .3222    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 126
*** TIME = .173622E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3552E-05    OSCILLATION LIMIT = .3516
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.17    CRITERION= .3234
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7292E-01
    HT FLOW CONVERGENCE VALUE= .5208E-01 CRITERION= .3223    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 127
*** TIME = .174612E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3254E-05 OSCILLATION LIMIT = .3220
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.06 CRITERION= .3234
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5140E-01 CRITERION= .3221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 128
*** TIME = .175602E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3518E-05 OSCILLATION LIMIT = .3481
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .3233
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7289E-01
HT FLOW CONVERGENCE VALUE= .5204E-01 CRITERION= .3222 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 129
*** TIME = .176591E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3234E-05 OSCILLATION LIMIT = .3200
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.07 CRITERION= .3233
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5137E-01 CRITERION= .3220 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 130
*** TIME = .177581E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3485E-05 OSCILLATION LIMIT = .3449
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .3232
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7287E-01
HT FLOW CONVERGENCE VALUE= .5197E-01 CRITERION= .3221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 131
*** TIME = .178570E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3214E-05 OSCILLATION LIMIT = .3180
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.08 CRITERION= .3232
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5128E-01 CRITERION= .3219 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 132
*** TIME = .179560E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3455E-05 OSCILLATION LIMIT = .3419
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .3231
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7284E-01
HT FLOW CONVERGENCE VALUE= .5188E-01 CRITERION= .3220 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 23 COMPLETED. CUM ITER = 133
*** TIME = .180550E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3195E-05 OSCILLATION LIMIT = .3162
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.08 CRITERION= .3231
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5124E-01 CRITERION= .3218 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 24 COMPLETED. CUM ITER = 134
*** TIME = .181539E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3427E-05 OSCILLATION LIMIT = .3392
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.20 CRITERION= .3230

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7282E-01
HT FLOW CONVERGENCE VALUE= .5183E-01 CRITERION= .3219 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 25 COMPLETED. CUM ITER = 135
*** TIME = .182529E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3176E-05 OSCILLATION LIMIT = .3143
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.09 CRITERION= .3230
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5118E-01 CRITERION= .3217 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 26 COMPLETED. CUM ITER = 136
*** TIME = .183519E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3400E-05 OSCILLATION LIMIT = .3365
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.20 CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7280E-01
HT FLOW CONVERGENCE VALUE= .5176E-01 CRITERION= .3218 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 27 COMPLETED. CUM ITER = 137
*** TIME = .184508E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3158E-05 OSCILLATION LIMIT = .3125
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.10 CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5110E-01 CRITERION= .3216 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 28 COMPLETED. CUM ITER = 138
*** TIME = .185498E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3375E-05 OSCILLATION LIMIT = .3340
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.21 CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7277E-01
HT FLOW CONVERGENCE VALUE= .5168E-01 CRITERION= .3217 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 29 COMPLETED. CUM ITER = 139
*** TIME = .186487E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3141E-05 OSCILLATION LIMIT = .3108
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.10 CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5107E-01 CRITERION= .3215 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 30 COMPLETED. CUM ITER = 140
*** TIME = .187477E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3352E-05 OSCILLATION LIMIT = .3317
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.21 CRITERION= .3227
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7275E-01
HT FLOW CONVERGENCE VALUE= .5163E-01 CRITERION= .3216 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 31 COMPLETED. CUM ITER = 141
*** TIME = .188467E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3125E-05 OSCILLATION LIMIT = .3092
*** AUTO STEP TIME: NEXT TIME INC = 87918. DECREASED (FACTOR = .8884)

HT FLOW CONVERGENCE VALUE= 24.08 CRITERION= .3225
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6395E-01
HT FLOW CONVERGENCE VALUE= .4503E-01 CRITERION= .3214 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 32 COMPLETED. CUM ITER = 142
*** TIME = .189346E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3714E-05 OSCILLATION LIMIT = .3265

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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:36:58 JUN 12, 1995 CP= 8356.430
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.79 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5591E-01
 HT FLOW CONVERGENCE VALUE= .3959E-01 CRITERION= .3215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 143
 *** TIME = .190225E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3306E-05 OSCILLATION LIMIT = .2906
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.68 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3790E-01 CRITERION= .3213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 144
 *** TIME = .191104E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .4744E-05 OSCILLATION LIMIT = .4170
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.79 CRITERION= .3220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5584E-01
 HT FLOW CONVERGENCE VALUE= .3900E-01 CRITERION= .3214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 145
 *** TIME = .191983E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3706E-05 OSCILLATION LIMIT = .3259
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.68 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3819E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 146
 *** TIME = .192863E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .4184E-05 OSCILLATION LIMIT = .3678
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.80 CRITERION= .3219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5581E-01
 HT FLOW CONVERGENCE VALUE= .3889E-01 CRITERION= .3213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 147
 *** TIME = .193742E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3807E-05 OSCILLATION LIMIT = .3347
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.69 CRITERION= .3220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3820E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 148
 *** TIME = .194621E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .4114E-05 OSCILLATION LIMIT = .3617
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.80 CRITERION= .3218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5579E-01
 HT FLOW CONVERGENCE VALUE= .3882E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 149
 *** TIME = .195500E+08 TIME INC = 87918.2

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*** RESPONSE EIGENVALUE = .3788E-05  OSCILLATION LIMIT = .3330
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.69      CRITERION= .3219
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
    HT FLOW CONVERGENCE VALUE= .3818E-01 CRITERION= .3211    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED.  CUM ITER = 150
*** TIME = .196379E+08  TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .4073E-05  OSCILLATION LIMIT = .3581
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.80      CRITERION= .3217
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5576E-01
    HT FLOW CONVERGENCE VALUE= .3875E-01 CRITERION= .3211    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED.  CUM ITER = 151
*** TIME = .197259E+08  TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3765E-05  OSCILLATION LIMIT = .3310
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.70      CRITERION= .3218
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
    HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .3210    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED.  CUM ITER = 152
*** TIME = .198138E+08  TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .4038E-05  OSCILLATION LIMIT = .3550
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.81      CRITERION= .3217
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5574E-01
    HT FLOW CONVERGENCE VALUE= .3865E-01 CRITERION= .3211    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 11 COMPLETED.  CUM ITER = 153
*** TIME = .199017E+08  TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3742E-05  OSCILLATION LIMIT = .3290
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.70      CRITERION= .3217
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
    HT FLOW CONVERGENCE VALUE= .3806E-01 CRITERION= .3209    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 12 COMPLETED.  CUM ITER = 154
*** TIME = .199896E+08  TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .4005E-05  OSCILLATION LIMIT = .3521
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.81      CRITERION= .3216
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5572E-01
    HT FLOW CONVERGENCE VALUE= .3857E-01 CRITERION= .3210    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 13 COMPLETED.  CUM ITER = 155
*** TIME = .200775E+08  TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3718E-05  OSCILLATION LIMIT = .3269
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.70      CRITERION= .3216
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
    HT FLOW CONVERGENCE VALUE= .3798E-01 CRITERION= .3208    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 14 COMPLETED.  CUM ITER = 156
*** TIME = .201654E+08  TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3973E-05  OSCILLATION LIMIT = .3493
*** AUTO STEP TIME:  NEXT TIME INC = 87918.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 20.81      CRITERION= .3215
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5569E-01
    HT FLOW CONVERGENCE VALUE= .3854E-01 CRITERION= .3209    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 157
 *** TIME = .202534E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3694E-05 OSCILLATION LIMIT = .3248
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.71 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3802E-01 CRITERION= .3207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 158
 *** TIME = .203413E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3943E-05 OSCILLATION LIMIT = .3466
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.82 CRITERION= .3214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5567E-01
 HT FLOW CONVERGENCE VALUE= .3855E-01 CRITERION= .3208 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 159
 *** TIME = .204292E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3671E-05 OSCILLATION LIMIT = .3228
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.71 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3801E-01 CRITERION= .3206 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 160
 *** TIME = .205171E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3915E-05 OSCILLATION LIMIT = .3442
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.82 CRITERION= .3213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5565E-01
 HT FLOW CONVERGENCE VALUE= .3850E-01 CRITERION= .3207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 161
 *** TIME = .206050E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3651E-05 OSCILLATION LIMIT = .3210
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .3214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3799E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 162
 *** TIME = .206930E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3889E-05 OSCILLATION LIMIT = .3419
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.82 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5563E-01
 HT FLOW CONVERGENCE VALUE= .3846E-01 CRITERION= .3206 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 163
 *** TIME = .207809E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3631E-05 OSCILLATION LIMIT = .3193
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .3213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3797E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 164
 *** TIME = .208688E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3864E-05 OSCILLATION LIMIT = .3397
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.83 CRITERION= .3211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5561E-01

HT FLOW CONVERGENCE VALUE= .3844E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 165
 *** TIME = .209567E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3613E-05 OSCILLATION LIMIT = .3176
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3793E-01 CRITERION= .3204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 166
 *** TIME = .210446E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3840E-05 OSCILLATION LIMIT = .3376
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.83 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5559E-01
 HT FLOW CONVERGENCE VALUE= .3837E-01 CRITERION= .3204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 167
 *** TIME = .211325E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3594E-05 OSCILLATION LIMIT = .3160
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.73 CRITERION= .3211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3790E-01 CRITERION= .3203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 168
 *** TIME = .212205E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3818E-05 OSCILLATION LIMIT = .3357
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.83 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5557E-01
 HT FLOW CONVERGENCE VALUE= .3832E-01 CRITERION= .3203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 27 COMPLETED. CUM ITER = 169
 *** TIME = .213084E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3577E-05 OSCILLATION LIMIT = .3145
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.73 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3787E-01 CRITERION= .3202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 28 COMPLETED. CUM ITER = 170
 *** TIME = .213963E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3796E-05 OSCILLATION LIMIT = .3338
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.84 CRITERION= .3209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5555E-01
 HT FLOW CONVERGENCE VALUE= .3827E-01 CRITERION= .3202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 29 COMPLETED. CUM ITER = 171
 *** TIME = .214842E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3561E-05 OSCILLATION LIMIT = .3131
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .3209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3781E-01 CRITERION= .3201 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 30 COMPLETED. CUM ITER = 172
 *** TIME = .215721E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3775E-05 OSCILLATION LIMIT = .3319
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.84 CRITERION= .3208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5553E-01
 HT FLOW CONVERGENCE VALUE= .3820E-01 CRITERION= .3202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 31 COMPLETED. CUM ITER = 173
 *** TIME = .216601E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3545E-05 OSCILLATION LIMIT = .3117
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .3208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3777E-01 CRITERION= .3200 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 32 COMPLETED. CUM ITER = 174
 *** TIME = .217480E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3755E-05 OSCILLATION LIMIT = .3301
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.84 CRITERION= .3207
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5552E-01
 HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .3201 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 33 COMPLETED. CUM ITER = 175
 *** TIME = .218359E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3530E-05 OSCILLATION LIMIT = .3103
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .3207
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3774E-01 CRITERION= .3199 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 34 COMPLETED. CUM ITER = 176
 *** TIME = .219238E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3736E-05 OSCILLATION LIMIT = .3285
 *** AUTO STEP TIME: NEXT TIME INC = 83270. DECREASED (FACTOR = .9471)

HT FLOW CONVERGENCE VALUE= 19.75 CRITERION= .3205
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5260E-01
 HT FLOW CONVERGENCE VALUE= .3600E-01 CRITERION= .3200 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 35 COMPLETED. CUM ITER = 177
 *** TIME = .220071E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .3658E-05 OSCILLATION LIMIT = .3046
 *** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.65 CRITERION= .3206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5212E-01
 HT FLOW CONVERGENCE VALUE= .3561E-01 CRITERION= .3198 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 36 COMPLETED. CUM ITER = 178
 *** TIME = .220904E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .3828E-05 OSCILLATION LIMIT = .3188

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:15:54 JUN 12, 1995 CP= 10656.510
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .3203
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4486E-01
 HT FLOW CONVERGENCE VALUE= .3101E-01 CRITERION= .3199 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 179
 *** TIME = .221736E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .3423E-05 OSCILLATION LIMIT = .2851

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*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3204
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2950E-01 CRITERION= .3198      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 180
*** TIME = .222569E+08      TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .5350E-05 OSCILLATION LIMIT = .4455
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3202
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4480E-01
HT FLOW CONVERGENCE VALUE= .3040E-01 CRITERION= .3198      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 181
*** TIME = .223402E+08      TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4131E-05 OSCILLATION LIMIT = .3439
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2984E-01 CRITERION= .3197      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 182
*** TIME = .224234E+08      TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4637E-05 OSCILLATION LIMIT = .3862
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4477E-01
HT FLOW CONVERGENCE VALUE= .3029E-01 CRITERION= .3197      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 183
*** TIME = .225067E+08      TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4261E-05 OSCILLATION LIMIT = .3548
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3202
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2984E-01 CRITERION= .3196      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 184
*** TIME = .225900E+08      TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4574E-05 OSCILLATION LIMIT = .3809
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4475E-01
HT FLOW CONVERGENCE VALUE= .3027E-01 CRITERION= .3197      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 185
*** TIME = .226732E+08      TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4250E-05 OSCILLATION LIMIT = .3539
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2983E-01 CRITERION= .3195      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 186
*** TIME = .227565E+08      TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4540E-05 OSCILLATION LIMIT = .3780
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3200
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4474E-01
HT FLOW CONVERGENCE VALUE= .3024E-01 CRITERION= .3196      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 187

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*** TIME = .228398E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4235E-05    OSCILLATION LIMIT = .3526
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3200
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2982E-01 CRITERION= .3195    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 188
*** TIME = .229231E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4510E-05    OSCILLATION LIMIT = .3756
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3199
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4472E-01
    HT FLOW CONVERGENCE VALUE= .3021E-01 CRITERION= .3195    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 189
*** TIME = .230063E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4219E-05    OSCILLATION LIMIT = .3513
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3199
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2982E-01 CRITERION= .3194    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 190
*** TIME = .230896E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4483E-05    OSCILLATION LIMIT = .3733
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3198
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4470E-01
    HT FLOW CONVERGENCE VALUE= .3018E-01 CRITERION= .3194    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 191
*** TIME = .231729E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4202E-05    OSCILLATION LIMIT = .3499
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3199
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2981E-01 CRITERION= .3193    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 192
*** TIME = .232561E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4458E-05    OSCILLATION LIMIT = .3712
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3197
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4468E-01
    HT FLOW CONVERGENCE VALUE= .3015E-01 CRITERION= .3193    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 193
*** TIME = .233394E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4185E-05    OSCILLATION LIMIT = .3485
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3198
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2978E-01 CRITERION= .3192    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 194
*** TIME = .234227E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4435E-05    OSCILLATION LIMIT = .3693
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3197
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4466E-01
    HT FLOW CONVERGENCE VALUE= .3012E-01 CRITERION= .3193    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 195
*** TIME = .235059E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4169E-05 OSCILLATION LIMIT = .3471
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3197
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2978E-01 CRITERION= .3191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 196
*** TIME = .235892E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4413E-05 OSCILLATION LIMIT = .3675
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.85 CRITERION= .3196
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4465E-01
HT FLOW CONVERGENCE VALUE= .3010E-01 CRITERION= .3192 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 197
*** TIME = .236725E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4153E-05 OSCILLATION LIMIT = .3458
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3196
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2977E-01 CRITERION= .3191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 198
*** TIME = .237558E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4392E-05 OSCILLATION LIMIT = .3657
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4463E-01
HT FLOW CONVERGENCE VALUE= .3008E-01 CRITERION= .3191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 199
*** TIME = .238390E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4138E-05 OSCILLATION LIMIT = .3446
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2976E-01 CRITERION= .3190 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 200
*** TIME = .239223E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4372E-05 OSCILLATION LIMIT = .3640
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4462E-01
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .3190 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 201
*** TIME = .240056E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4123E-05 OSCILLATION LIMIT = .3433
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .3189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 202
*** TIME = .240888E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4352E-05 OSCILLATION LIMIT = .3624
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3193

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4460E-01
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .3189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 203
*** TIME = .241721E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4108E-05 OSCILLATION LIMIT = .3421
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.77 CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2973E-01 CRITERION= .3188 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 204
*** TIME = .242554E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4332E-05 OSCILLATION LIMIT = .3608
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4458E-01
HT FLOW CONVERGENCE VALUE= .3004E-01 CRITERION= .3189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 205
*** TIME = .243387E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4094E-05 OSCILLATION LIMIT = .3409
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.77 CRITERION= .3193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2975E-01 CRITERION= .3187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 206
*** TIME = .244219E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4314E-05 OSCILLATION LIMIT = .3592
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3192
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4457E-01
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .3188 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 207
*** TIME = .245052E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4080E-05 OSCILLATION LIMIT = .3398
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.77 CRITERION= .3192
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2974E-01 CRITERION= .3187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 208
*** TIME = .245885E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4296E-05 OSCILLATION LIMIT = .3578
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3191
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4456E-01
HT FLOW CONVERGENCE VALUE= .3001E-01 CRITERION= .3187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 31 COMPLETED. CUM ITER = 209
*** TIME = .246717E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4068E-05 OSCILLATION LIMIT = .3387
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.78 CRITERION= .3191
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2974E-01 CRITERION= .3186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 32 COMPLETED. CUM ITER = 210
*** TIME = .247550E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4279E-05 OSCILLATION LIMIT = .3564
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4454E-01
 HT FLOW CONVERGENCE VALUE= .2997E-01 CRITERION= .3186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 33 COMPLETED. CUM ITER = 211
 *** TIME = .248383E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4056E-05 OSCILLATION LIMIT = .3377
 *** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.78 CRITERION= .3191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
 HT FLOW CONVERGENCE VALUE= .2970E-01 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 34 COMPLETED. CUM ITER = 212
 *** TIME = .249215E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4263E-05 OSCILLATION LIMIT = .3550
 *** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4453E-01
 HT FLOW CONVERGENCE VALUE= .2994E-01 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 35 COMPLETED. CUM ITER = 213
 *** TIME = .250048E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4044E-05 OSCILLATION LIMIT = .3367
 *** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.78 CRITERION= .3190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
 HT FLOW CONVERGENCE VALUE= .2965E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 36 COMPLETED. CUM ITER = 214
 *** TIME = .250881E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4247E-05 OSCILLATION LIMIT = .3536
 *** AUTO TIME STEP: NEXT TIME INC = 79012. DECREASED (FACTOR = .9489)

HT FLOW CONVERGENCE VALUE= 16.01 CRITERION= .3188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4227E-01
 HT FLOW CONVERGENCE VALUE= .2831E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 37 COMPLETED. CUM ITER = 215
 *** TIME = .251671E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4170E-05 OSCILLATION LIMIT = .3295
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.92 CRITERION= .3188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4199E-01
 HT FLOW CONVERGENCE VALUE= .2808E-01 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 38 COMPLETED. CUM ITER = 216
 *** TIME = .252461E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4337E-05 OSCILLATION LIMIT = .3427

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:56:58 JUN 12, 1995 CP= 13085.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 14.18 CRITERION= .3187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3750E-01
 HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 217
 *** TIME = .253251E+08 TIME INC = 79012.5

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*** RESPONSE EIGENVALUE = .3944E-05  OSCILLATION LIMIT = .3116
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3187
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2437E-01 CRITERION= .3183    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED.  CUM ITER = 218
*** TIME = .254041E+08  TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .5585E-05  OSCILLATION LIMIT = .4413
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.18      CRITERION= .3186
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3746E-01
  HT FLOW CONVERGENCE VALUE= .2496E-01 CRITERION= .3183    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED.  CUM ITER = 219
*** TIME = .254831E+08  TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4607E-05  OSCILLATION LIMIT = .3640
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3186
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .3182    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED.  CUM ITER = 220
*** TIME = .255622E+08  TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .5028E-05  OSCILLATION LIMIT = .3973
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.18      CRITERION= .3185
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3744E-01
  HT FLOW CONVERGENCE VALUE= .2490E-01 CRITERION= .3182    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED.  CUM ITER = 221
*** TIME = .256412E+08  TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4700E-05  OSCILLATION LIMIT = .3714
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3185
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3181    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED.  CUM ITER = 222
*** TIME = .257202E+08  TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4985E-05  OSCILLATION LIMIT = .3939
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.19      CRITERION= .3184
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3743E-01
  HT FLOW CONVERGENCE VALUE= .2489E-01 CRITERION= .3182    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED.  CUM ITER = 223
*** TIME = .257992E+08  TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4693E-05  OSCILLATION LIMIT = .3708
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3185
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3180    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED.  CUM ITER = 224
*** TIME = .258782E+08  TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4959E-05  OSCILLATION LIMIT = .3918
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.19      CRITERION= .3184
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3742E-01
  HT FLOW CONVERGENCE VALUE= .2488E-01 CRITERION= .3181    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 225
*** TIME = .259572E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4682E-05 OSCILLATION LIMIT = .3700
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3180 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 226
*** TIME = .260362E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4936E-05 OSCILLATION LIMIT = .3900
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3183
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3740E-01
HT FLOW CONVERGENCE VALUE= .2487E-01 CRITERION= .3180 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 227
*** TIME = .261152E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4671E-05 OSCILLATION LIMIT = .3691
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3183
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3179 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 228
*** TIME = .261943E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4916E-05 OSCILLATION LIMIT = .3884
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3739E-01
HT FLOW CONVERGENCE VALUE= .2486E-01 CRITERION= .3179 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 229
*** TIME = .262733E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4659E-05 OSCILLATION LIMIT = .3681
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 230
*** TIME = .263523E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4897E-05 OSCILLATION LIMIT = .3869
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3738E-01
HT FLOW CONVERGENCE VALUE= .2485E-01 CRITERION= .3179 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 231
*** TIME = .264313E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4647E-05 OSCILLATION LIMIT = .3672
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3182
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3177 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 232
*** TIME = .265103E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4879E-05 OSCILLATION LIMIT = .3855
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3737E-01

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HT FLOW CONVERGENCE VALUE= .2484E-01 CRITERION= .3178 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 233
 *** TIME = .265893E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4636E-05 OSCILLATION LIMIT = .3663
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 234
 *** TIME = .266683E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4862E-05 OSCILLATION LIMIT = .3842
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3736E-01
 HT FLOW CONVERGENCE VALUE= .2484E-01 CRITERION= .3177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 235
 *** TIME = .267473E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4624E-05 OSCILLATION LIMIT = .3654
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3180
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 236
 *** TIME = .268264E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4846E-05 OSCILLATION LIMIT = .3829
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3179
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3735E-01
 HT FLOW CONVERGENCE VALUE= .2483E-01 CRITERION= .3176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 237
 *** TIME = .269054E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4614E-05 OSCILLATION LIMIT = .3645
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3179
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3175 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 238
 *** TIME = .269844E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4830E-05 OSCILLATION LIMIT = .3816
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3734E-01
 HT FLOW CONVERGENCE VALUE= .2482E-01 CRITERION= .3176 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 239
 *** TIME = .270634E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4603E-05 OSCILLATION LIMIT = .3637
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3179
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3175 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 240
 *** TIME = .271424E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4815E-05 OSCILLATION LIMIT = .3804
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3733E-01
 HT FLOW CONVERGENCE VALUE= .2481E-01 CRITERION= .3175 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 241
 *** TIME = .272214E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4593E-05 OSCILLATION LIMIT = .3629
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 242
 *** TIME = .273004E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4800E-05 OSCILLATION LIMIT = .3793
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3733E-01
 HT FLOW CONVERGENCE VALUE= .2480E-01 CRITERION= .3174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 243
 *** TIME = .273794E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4583E-05 OSCILLATION LIMIT = .3621
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 244
 *** TIME = .274585E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4786E-05 OSCILLATION LIMIT = .3782
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3732E-01
 HT FLOW CONVERGENCE VALUE= .2478E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 245
 *** TIME = .275375E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .44573E-05 OSCILLATION LIMIT = .3613
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 246
 *** TIME = .276165E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4772E-05 OSCILLATION LIMIT = .3771
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3731E-01
 HT FLOW CONVERGENCE VALUE= .2477E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 247
 *** TIME = .276955E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4564E-05 OSCILLATION LIMIT = .3606
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.12 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 248
 *** TIME = .277745E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4759E-05 OSCILLATION LIMIT = .3760

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*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.20      CRITERION= .3175
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3731E-01
  HT FLOW CONVERGENCE VALUE= .2476E-01 CRITERION= .3172      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 249
*** TIME = .278535E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4555E-05 OSCILLATION LIMIT = .3599
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.12      CRITERION= .3175
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3171      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 250
*** TIME = .279325E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4746E-05 OSCILLATION LIMIT = .3750
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.21      CRITERION= .3174
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3730E-01
  HT FLOW CONVERGENCE VALUE= .2475E-01 CRITERION= .3171      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 251
*** TIME = .280115E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4547E-05 OSCILLATION LIMIT = .3593
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.12      CRITERION= .3174
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3170      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 252
*** TIME = .280906E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4734E-05 OSCILLATION LIMIT = .3740
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.21      CRITERION= .3173
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3730E-01
  HT FLOW CONVERGENCE VALUE= .2475E-01 CRITERION= .3170      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 253
*** TIME = .281696E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4539E-05 OSCILLATION LIMIT = .3587
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.12      CRITERION= .3173
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3169      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 254
*** TIME = .282486E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4724E-05 OSCILLATION LIMIT = .3732
*** AUTO STEP TIME: NEXT TIME INC = 76643.      DECREASED (FACTOR = .9700)

  HT FLOW CONVERGENCE VALUE= 13.78      CRITERION= .3172
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3618E-01
  HT FLOW CONVERGENCE VALUE= .2398E-01 CRITERION= .3170      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 39 COMPLETED. CUM ITER = 255
*** TIME = .283252E+08 TIME INC = 76643.4
*** RESPONSE EIGENVALUE = .4611E-05 OSCILLATION LIMIT = .3534
*** AUTO STEP TIME: NEXT TIME INC = 76643.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.70      CRITERION= .3172
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3600E-01
  HT FLOW CONVERGENCE VALUE= .2384E-01 CRITERION= .3169      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 40 COMPLETED. CUM ITER = 256

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*** TIME = .284019E+08 TIME INC = 76643.4
 *** RESPONSE EIGENVALUE = .4772E-05 OSCILLATION LIMIT = .3657
 Apply loads and solve for 1 to 9 years

*DO LOOP ON PARAMETER= TM FROM .31558E+08 TO .28402E+09 BY .31558E+08

TIME= .31558E+08

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5654.64534 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 123.22 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 124.26 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 126.87 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 15657.700 TIME= 08:42:44
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:42:44 JUN 12, 1995 CP= 15657.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 13
 TIME AT END OF THE LOAD STEP.31558E+08
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25

STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3171
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3402E-01
 HT FLOW CONVERGENCE VALUE= .2263E-01 CRITERION= .3169 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 257
 *** TIME = .284808E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4385E-05 OSCILLATION LIMIT = .3459
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.84 CRITERION= .3171
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
 HT FLOW CONVERGENCE VALUE= .2200E-01 CRITERION= .3168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 258
 *** TIME = .285597E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5720E-05 OSCILLATION LIMIT = .4512
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3171
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3400E-01
 HT FLOW CONVERGENCE VALUE= .2234E-01 CRITERION= .3168 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 259
 *** TIME = .286386E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5013E-05 OSCILLATION LIMIT = .3955
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.84 CRITERION= .3171
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
 HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .3167 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 260
 *** TIME = .287174E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5334E-05 OSCILLATION LIMIT = .4208
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3399E-01
 HT FLOW CONVERGENCE VALUE= .2231E-01 CRITERION= .3167 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 261
 *** TIME = .287963E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5079E-05 OSCILLATION LIMIT = .4007
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.84 CRITERION= .3170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
 HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .3166 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 262
 *** TIME = .288752E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5307E-05 OSCILLATION LIMIT = .4187
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3169
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3399E-01

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HT FLOW CONVERGENCE VALUE= .2230E-01 CRITERION= .3167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 263
*** TIME = .289541E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5075E-05 OSCILLATION LIMIT = .4004
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.85 CRITERION= .3169
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .3166 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 264
*** TIME = .290330E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5290E-05 OSCILLATION LIMIT = .4174
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3398E-01
HT FLOW CONVERGENCE VALUE= .2229E-01 CRITERION= .3166 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 265
*** TIME = .291119E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5069E-05 OSCILLATION LIMIT = .3999
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.85 CRITERION= .3169
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .3165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 266
*** TIME = .291908E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5275E-05 OSCILLATION LIMIT = .4162
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3398E-01
HT FLOW CONVERGENCE VALUE= .2228E-01 CRITERION= .3165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 11 COMPLETED. CUM ITER = 267
*** TIME = .292697E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5062E-05 OSCILLATION LIMIT = .3994
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.85 CRITERION= .3168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .3164 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED. CUM ITER = 268
*** TIME = .293486E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5262E-05 OSCILLATION LIMIT = .4151
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3167
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3397E-01
HT FLOW CONVERGENCE VALUE= .2227E-01 CRITERION= .3164 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED. CUM ITER = 269
*** TIME = .294275E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5055E-05 OSCILLATION LIMIT = .3988
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.85 CRITERION= .3167
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2212E-01 CRITERION= .3164 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 14 COMPLETED. CUM ITER = 270
*** TIME = .295064E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5249E-05 OSCILLATION LIMIT = .4141
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.93 CRITERION= .3166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3397E-01
 HT FLOW CONVERGENCE VALUE= .2226E-01 CRITERION= .3164 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 15 COMPLETED. CUM ITER = 271
 *** TIME = .295853E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5048E-05 OSCILLATION LIMIT = .3982
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.85 CRITERION= .3166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
 HT FLOW CONVERGENCE VALUE= .2212E-01 CRITERION= .3163 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 16 COMPLETED. CUM ITER = 272
 *** TIME = .296642E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5238E-05 OSCILLATION LIMIT = .4132
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.94 CRITERION= .3165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3396E-01
 HT FLOW CONVERGENCE VALUE= .2225E-01 CRITERION= .3163 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 17 COMPLETED. CUM ITER = 273
 *** TIME = .297431E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5040E-05 OSCILLATION LIMIT = .3977
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.85 CRITERION= .3166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
 HT FLOW CONVERGENCE VALUE= .2211E-01 CRITERION= .3162 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 274
 *** TIME = .298220E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5226E-05 OSCILLATION LIMIT = .4123
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.94 CRITERION= .3165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3396E-01
 HT FLOW CONVERGENCE VALUE= .2221E-01 CRITERION= .3162 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 275
 *** TIME = .299009E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5033E-05 OSCILLATION LIMIT = .3971
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.85 CRITERION= .3165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
 HT FLOW CONVERGENCE VALUE= .2208E-01 CRITERION= .3161 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 276
 *** TIME = .299798E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5215E-05 OSCILLATION LIMIT = .4114
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.94 CRITERION= .3164
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3395E-01
 HT FLOW CONVERGENCE VALUE= .2221E-01 CRITERION= .3162 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 277
 *** TIME = .300586E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5026E-05 OSCILLATION LIMIT = .3965
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.86 CRITERION= .3164
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
 HT FLOW CONVERGENCE VALUE= .2208E-01 CRITERION= .3161 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 278
 *** TIME = .301375E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5204E-05 OSCILLATION LIMIT = .4106

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.94 CRITERION= .3163
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3395E-01
HT FLOW CONVERGENCE VALUE= .2220E-01 CRITERION= .3161 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 279

*** TIME = .302164E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .5019E-05 OSCILLATION LIMIT = .3960

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.86 CRITERION= .3163
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2211E-01 CRITERION= .3160 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 280

*** TIME = .302953E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .5193E-05 OSCILLATION LIMIT = .4097

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.94 CRITERION= .3163
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3395E-01
HT FLOW CONVERGENCE VALUE= .2222E-01 CRITERION= .3160 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 281

*** TIME = .303742E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .5011E-05 OSCILLATION LIMIT = .3954

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.86 CRITERION= .3163
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2210E-01 CRITERION= .3159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 282

*** TIME = .304531E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .5182E-05 OSCILLATION LIMIT = .4089

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.94 CRITERION= .3162
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3395E-01
HT FLOW CONVERGENCE VALUE= .2221E-01 CRITERION= .3159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 283

*** TIME = .305320E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .5005E-05 OSCILLATION LIMIT = .3948

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.86 CRITERION= .3162
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2210E-01 CRITERION= .3158 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 284

*** TIME = .306109E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .5173E-05 OSCILLATION LIMIT = .4081

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.94 CRITERION= .3161
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3394E-01
HT FLOW CONVERGENCE VALUE= .2220E-01 CRITERION= .3159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 285

*** TIME = .306898E+08 TIME INC = 78894.0

*** RESPONSE EIGENVALUE = .4998E-05 OSCILLATION LIMIT = .3943

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.86 CRITERION= .3161
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2209E-01 CRITERION= .3158 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 286

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*** TIME = .307687E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5163E-05    OSCILLATION LIMIT = .4073
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.94    CRITERION= .3160
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3394E-01
    HT FLOW CONVERGENCE VALUE= .2220E-01 CRITERION= .3158    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 31 COMPLETED.    CUM ITER = 287
*** TIME = .308476E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4992E-05    OSCILLATION LIMIT = .3939
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.86    CRITERION= .3160
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
    HT FLOW CONVERGENCE VALUE= .2208E-01 CRITERION= .3157    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 32 COMPLETED.    CUM ITER = 288
*** TIME = .309265E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5154E-05    OSCILLATION LIMIT = .4066
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.95    CRITERION= .3160
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3394E-01
    HT FLOW CONVERGENCE VALUE= .2216E-01 CRITERION= .3157    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 33 COMPLETED.    CUM ITER = 289
*** TIME = .310054E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4986E-05    OSCILLATION LIMIT = .3934
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.87    CRITERION= .3160
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
    HT FLOW CONVERGENCE VALUE= .2213E-01 CRITERION= .3156    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 34 COMPLETED.    CUM ITER = 290
*** TIME = .310843E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5144E-05    OSCILLATION LIMIT = .4059
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.95    CRITERION= .3159
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3394E-01
    HT FLOW CONVERGENCE VALUE= .2247E-01 CRITERION= .3156    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 35 COMPLETED.    CUM ITER = 291
*** TIME = .311632E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4980E-05    OSCILLATION LIMIT = .3929
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.87    CRITERION= .3159
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
    HT FLOW CONVERGENCE VALUE= .2236E-01 CRITERION= .3156    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 36 COMPLETED.    CUM ITER = 292
*** TIME = .312421E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5135E-05    OSCILLATION LIMIT = .4051
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.95    CRITERION= .3158
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3394E-01
    HT FLOW CONVERGENCE VALUE= .2248E-01 CRITERION= .3156    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 37 COMPLETED.    CUM ITER = 293
*** TIME = .313209E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4974E-05    OSCILLATION LIMIT = .3924
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.87    CRITERION= .3158
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
    HT FLOW CONVERGENCE VALUE= .2240E-01 CRITERION= .3155    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 294
*** TIME = .313998E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5126E-05 OSCILLATION LIMIT = .4044
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.95 CRITERION= .3157
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3393E-01
HT FLOW CONVERGENCE VALUE= .2275E-01 CRITERION= .3155 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 295
*** TIME = .314787E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4968E-05 OSCILLATION LIMIT = .3919
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.87 CRITERION= .3158
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3386E-01
HT FLOW CONVERGENCE VALUE= .2263E-01 CRITERION= .3154 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 296
*** TIME = .315576E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5116E-05 OSCILLATION LIMIT = .4037

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 09:26:55 JUN 12, 1995 CP= 18222.140
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 83.07 CRITERION= .3262
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1489 CRITERION= .3153 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 297
*** TIME = .323466E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .3830E-05 OSCILLATION LIMIT = 3.022
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.01 CRITERION= .3260
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1394 CRITERION= .3149 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 298
*** TIME = .331355E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8274E-05 OSCILLATION LIMIT = 6.528
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.13 CRITERION= .3257
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1415 CRITERION= .3147 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 299
*** TIME = .339245E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6952E-05 OSCILLATION LIMIT = 5.484
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.07 CRITERION= .3255
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
HT FLOW CONVERGENCE VALUE= .1406 CRITERION= .3143 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 300
*** TIME = .347134E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7823E-05 OSCILLATION LIMIT = 6.172
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 83.19 CRITERION= .3251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1422 CRITERION= .3141 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 301
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7051E-05 OSCILLATION LIMIT = 5.562
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.13 CRITERION= .3249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1409 CRITERION= .3137 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 302
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7716E-05 OSCILLATION LIMIT = 6.088
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.24 CRITERION= .3246
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1420 CRITERION= .3135 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 303
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7115E-05 OSCILLATION LIMIT = 5.613
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.19 CRITERION= .3243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1408 CRITERION= .3131 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 304
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7631E-05 OSCILLATION LIMIT = 6.021
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.30 CRITERION= .3240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1417 CRITERION= .3129 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 305
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7160E-05 OSCILLATION LIMIT = 5.649
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.24 CRITERION= .3238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1418 CRITERION= .3125 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 306
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7560E-05 OSCILLATION LIMIT = 5.965
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.36 CRITERION= .3234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1448 CRITERION= .3123 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 307
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7186E-05 OSCILLATION LIMIT = 5.669
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.30 CRITERION= .3232
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1449 CRITERION= .3119 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 308
 *** TIME = .410249E+08 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .7497E-05 OSCILLATION LIMIT = 5.914
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.41 CRITERION= .3229
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1480 CRITERION= .3117 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 309
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7198E-05 OSCILLATION LIMIT = 5.679
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.36 CRITERION= .3226
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1498 CRITERION= .3113 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 310
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7442E-05 OSCILLATION LIMIT = 5.871
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.47 CRITERION= .3223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1521 CRITERION= .3111 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 311
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7201E-05 OSCILLATION LIMIT = 5.681
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.41 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1523 CRITERION= .3107 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 312
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7400E-05 OSCILLATION LIMIT = 5.838
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.53 CRITERION= .3217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1536 CRITERION= .3105 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 313
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7211E-05 OSCILLATION LIMIT = 5.689
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.47 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1538 CRITERION= .3101 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 314
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7373E-05 OSCILLATION LIMIT = 5.817
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.59 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1541 CRITERION= .3099 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 315
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7216E-05 OSCILLATION LIMIT = 5.693
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.53 CRITERION= .3209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1534 CRITERION= .3095 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 316
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7344E-05 OSCILLATION LIMIT = 5.794
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.64 CRITERION= .3206
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1537 CRITERION= .3093 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 317
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7207E-05 OSCILLATION LIMIT = 5.686
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.59 CRITERION= .3204
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1531 CRITERION= .3089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 318
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7313E-05 OSCILLATION LIMIT = 5.770
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.70 CRITERION= .3200
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1533 CRITERION= .3087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 319
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7197E-05 OSCILLATION LIMIT = 5.678
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.64 CRITERION= .3198
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1527 CRITERION= .3083 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 320
 *** TIME = .504922E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7285E-05 OSCILLATION LIMIT = 5.747
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.76 CRITERION= .3195
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1530 CRITERION= .3081 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 321
 *** TIME = .512811E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7184E-05 OSCILLATION LIMIT = 5.668
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.70 CRITERION= .3192
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1524 CRITERION= .3077 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 322
 *** TIME = .520701E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7259E-05 OSCILLATION LIMIT = 5.727
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.81 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1526 CRITERION= .3075 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 323
 *** TIME = .528590E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7170E-05 OSCILLATION LIMIT = 5.656
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.76 CRITERION= .3187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183

HT FLOW CONVERGENCE VALUE= .1521 CRITERION= .3071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 324
 *** TIME = .536480E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7233E-05 OSCILLATION LIMIT = 5.707
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.87 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1523 CRITERION= .3069 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 325
 *** TIME = .544369E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7153E-05 OSCILLATION LIMIT = 5.644
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.81 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1518 CRITERION= .3065 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 326
 *** TIME = .552258E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7209E-05 OSCILLATION LIMIT = 5.688
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.93 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1519 CRITERION= .3063 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 327
 *** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7137E-05 OSCILLATION LIMIT = 5.631
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.87 CRITERION= .3175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1514 CRITERION= .3059 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 328
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7187E-05 OSCILLATION LIMIT = 5.670
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .3172
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1515 CRITERION= .3057 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 329
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7120E-05 OSCILLATION LIMIT = 5.617
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.93 CRITERION= .3170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1511 CRITERION= .3053 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 330
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7165E-05 OSCILLATION LIMIT = 5.653
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.04 CRITERION= .3167
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1512 CRITERION= .3051 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 331
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7103E-05 OSCILLATION LIMIT = 5.604
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 83.99 CRITERION= .3164
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1508 CRITERION= .3047 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 332
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7144E-05 OSCILLATION LIMIT = 5.636
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.10 CRITERION= .3161
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1509 CRITERION= .3045 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 333
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7084E-05 OSCILLATION LIMIT = 5.589
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.04 CRITERION= .3158
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1504 CRITERION= .3041 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 334
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7123E-05 OSCILLATION LIMIT = 5.619
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.16 CRITERION= .3155
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1506 CRITERION= .3039 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 335
 *** TIME = .623263E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7066E-05 OSCILLATION LIMIT = 5.575
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 84.10 CRITERION= .3153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2183
 HT FLOW CONVERGENCE VALUE= .1504 CRITERION= .3035 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 336
 *** TIME = .631152E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7102E-05 OSCILLATION LIMIT = 5.603

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:12:27 JUN 12, 1995 CP= 20797.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 44.43 CRITERION= .3067
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7062E-01 CRITERION= .3033 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 337
 *** TIME = .639042E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2192E-04 OSCILLATION LIMIT = 17.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.35 CRITERION= .3065
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7055E-01 CRITERION= .3030 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 338
 *** TIME = .646931E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2087E-04 OSCILLATION LIMIT = 16.46

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.45 CRITERION= .3062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7384E-01 CRITERION= .3028 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 339
 *** TIME = .654821E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1457E-04 OSCILLATION LIMIT = 11.50
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.36 CRITERION= .3060
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7070E-01 CRITERION= .3025 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 340
 *** TIME = .662710E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2050E-04 OSCILLATION LIMIT = 16.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.46 CRITERION= .3057
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7337E-01 CRITERION= .3023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 341
 *** TIME = .670599E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1518E-04 OSCILLATION LIMIT = 11.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.38 CRITERION= .3055
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7085E-01 CRITERION= .3020 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 342
 *** TIME = .678489E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1979E-04 OSCILLATION LIMIT = 15.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.48 CRITERION= .3052
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7298E-01 CRITERION= .3018 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 343
 *** TIME = .686378E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1566E-04 OSCILLATION LIMIT = 12.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.39 CRITERION= .3050
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7095E-01 CRITERION= .3015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 344
 *** TIME = .694268E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1925E-04 OSCILLATION LIMIT = 15.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.49 CRITERION= .3047
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7266E-01 CRITERION= .3013 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 345
 *** TIME = .702157E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1604E-04 OSCILLATION LIMIT = 12.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.41 CRITERION= .3045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7100E-01 CRITERION= .3010 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 346

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*** TIME = .710046E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1884E-04    OSCILLATION LIMIT = 14.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.51    CRITERION= .3042
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7238E-01    CRITERION= .3008    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 347
*** TIME = .717936E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1632E-04    OSCILLATION LIMIT = 12.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.43    CRITERION= .3040
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7099E-01    CRITERION= .3005    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 348
*** TIME = .725825E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1852E-04    OSCILLATION LIMIT = 14.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.52    CRITERION= .3037
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7214E-01    CRITERION= .3003    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 349
*** TIME = .733715E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1653E-04    OSCILLATION LIMIT = 13.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.44    CRITERION= .3035
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7096E-01    CRITERION= .2999    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 350
*** TIME = .741604E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1828E-04    OSCILLATION LIMIT = 14.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.54    CRITERION= .3032
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7192E-01    CRITERION= .2998    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 351
*** TIME = .749493E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1669E-04    OSCILLATION LIMIT = 13.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.46    CRITERION= .3030
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7098E-01    CRITERION= .2994    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 352
*** TIME = .757383E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1808E-04    OSCILLATION LIMIT = 14.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.56    CRITERION= .3027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7180E-01    CRITERION= .2993    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 353
*** TIME = .765272E+08    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1681E-04    OSCILLATION LIMIT = 13.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 44.47    CRITERION= .3025
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
    HT FLOW CONVERGENCE VALUE= .7092E-01    CRITERION= .2989    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 354
*** TIME = .773162E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1793E-04 OSCILLATION LIMIT = 14.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.57 CRITERION= .3022
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7162E-01 CRITERION= .2988 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 355
*** TIME = .781051E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1689E-04 OSCILLATION LIMIT = 13.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.49 CRITERION= .3020
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7085E-01 CRITERION= .2984 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 356
*** TIME = .788940E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1780E-04 OSCILLATION LIMIT = 14.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.59 CRITERION= .3017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7147E-01 CRITERION= .2983 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 357
*** TIME = .796830E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1695E-04 OSCILLATION LIMIT = 13.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.50 CRITERION= .3016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7076E-01 CRITERION= .2979 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 358
*** TIME = .804719E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1770E-04 OSCILLATION LIMIT = 13.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.60 CRITERION= .3012
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7131E-01 CRITERION= .2978 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 359
*** TIME = .812609E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1699E-04 OSCILLATION LIMIT = 13.40
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.52 CRITERION= .3011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7066E-01 CRITERION= .2974 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 360
*** TIME = .820498E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1762E-04 OSCILLATION LIMIT = 13.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.62 CRITERION= .3008
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7115E-01 CRITERION= .2973 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 361
*** TIME = .828387E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1702E-04 OSCILLATION LIMIT = 13.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.54 CRITERION= .3006

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7067E-01 CRITERION= .2969 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 362
*** TIME = .836277E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1755E-04 OSCILLATION LIMIT = 13.85
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.64 CRITERION= .3003
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7114E-01 CRITERION= .2968 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 363
*** TIME = .844166E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1703E-04 OSCILLATION LIMIT = 13.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.55 CRITERION= .3001
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7058E-01 CRITERION= .2964 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 364
*** TIME = .852056E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1749E-04 OSCILLATION LIMIT = 13.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.65 CRITERION= .2998
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7098E-01 CRITERION= .2962 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 365
*** TIME = .859945E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1704E-04 OSCILLATION LIMIT = 13.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.57 CRITERION= .2996
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7046E-01 CRITERION= .2959 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 366
*** TIME = .867834E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1744E-04 OSCILLATION LIMIT = 13.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.67 CRITERION= .2993
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7096E-01 CRITERION= .2957 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 367
*** TIME = .875724E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1704E-04 OSCILLATION LIMIT = 13.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.58 CRITERION= .2991
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7044E-01 CRITERION= .2954 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 368
*** TIME = .883613E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1740E-04 OSCILLATION LIMIT = 13.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.68 CRITERION= .2988
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
HT FLOW CONVERGENCE VALUE= .7081E-01 CRITERION= .2952 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 369
*** TIME = .891503E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1704E-04 OSCILLATION LIMIT = 13.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 44.60 CRITERION= .2986
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7032E-01 CRITERION= .2949 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 370
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1736E-04 OSCILLATION LIMIT = 13.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.70 CRITERION= .2983
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7072E-01 CRITERION= .2947 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 371
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1703E-04 OSCILLATION LIMIT = 13.43
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.62 CRITERION= .2981
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7031E-01 CRITERION= .2944 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 372
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1732E-04 OSCILLATION LIMIT = 13.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.71 CRITERION= .2978
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7066E-01 CRITERION= .2942 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 373
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1701E-04 OSCILLATION LIMIT = 13.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.63 CRITERION= .2976
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7020E-01 CRITERION= .2939 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 374
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1729E-04 OSCILLATION LIMIT = 13.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.73 CRITERION= .2973
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7059E-01 CRITERION= .2937 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 375
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1700E-04 OSCILLATION LIMIT = 13.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.65 CRITERION= .2971
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1155
 HT FLOW CONVERGENCE VALUE= .7015E-01 CRITERION= .2934 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 376
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1726E-04 OSCILLATION LIMIT = 13.61

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:59:21 JUN 12, 1995 CP= 23418.250
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 29.12 CRITERION= .2949
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4213E-01 CRITERION= .2933 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 377
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3311E-04 OSCILLATION LIMIT = 26.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.03 CRITERION= .2947
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4190E-01 CRITERION= .2930 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 378
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3282E-04 OSCILLATION LIMIT = 25.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.13 CRITERION= .2944
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4311E-01 CRITERION= .2928 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 379
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2789E-04 OSCILLATION LIMIT = 22.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.04 CRITERION= .2943
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4193E-01 CRITERION= .2926 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 380
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3257E-04 OSCILLATION LIMIT = 25.70
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.13 CRITERION= .2940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4299E-01 CRITERION= .2924 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 381
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2834E-04 OSCILLATION LIMIT = 22.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.04 CRITERION= .2938
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4197E-01 CRITERION= .2921 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 382
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3209E-04 OSCILLATION LIMIT = 25.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.14 CRITERION= .2936
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4288E-01 CRITERION= .2920 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 383
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2869E-04 OSCILLATION LIMIT = 22.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.05 CRITERION= .2934
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4200E-01 CRITERION= .2917 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 384
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3172E-04 OSCILLATION LIMIT = 25.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.15 CRITERION= .2931
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4276E-01 CRITERION= .2916 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 385
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2896E-04 OSCILLATION LIMIT = 22.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.06 CRITERION= .2930
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4198E-01 CRITERION= .2913 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 386
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3142E-04 OSCILLATION LIMIT = 24.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.15 CRITERION= .2927
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4264E-01 CRITERION= .2911 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 387
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2916E-04 OSCILLATION LIMIT = 23.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.06 CRITERION= .2926
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4195E-01 CRITERION= .2908 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 388
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3119E-04 OSCILLATION LIMIT = 24.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.16 CRITERION= .2923
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4254E-01 CRITERION= .2907 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 389
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2931E-04 OSCILLATION LIMIT = 23.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.07 CRITERION= .2921
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4191E-01 CRITERION= .2904 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 390
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3101E-04 OSCILLATION LIMIT = 24.46
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.17 CRITERION= .2919
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4245E-01 CRITERION= .2903 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 391
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2942E-04 OSCILLATION LIMIT = 23.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.08 CRITERION= .2917
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01

HT FLOW CONVERGENCE VALUE= .4187E-01 CRITERION= .2900 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 392
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3086E-04 OSCILLATION LIMIT = 24.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.17 CRITERION= .2915
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4235E-01 CRITERION= .2899 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 393
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2950E-04 OSCILLATION LIMIT = 23.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.08 CRITERION= .2913
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4181E-01 CRITERION= .2896 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 394
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3074E-04 OSCILLATION LIMIT = 24.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.18 CRITERION= .2910
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4226E-01 CRITERION= .2894 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 395
 *** TIME = .109663E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2956E-04 OSCILLATION LIMIT = 23.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.09 CRITERION= .2909
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4175E-01 CRITERION= .2891 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 396
 *** TIME = .110452E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3065E-04 OSCILLATION LIMIT = 24.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.19 CRITERION= .2906
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4217E-01 CRITERION= .2890 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 397
 *** TIME = .111241E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2960E-04 OSCILLATION LIMIT = 23.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.10 CRITERION= .2905
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4168E-01 CRITERION= .2887 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 398
 *** TIME = .112030E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3056E-04 OSCILLATION LIMIT = 24.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.19 CRITERION= .2902
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4209E-01 CRITERION= .2886 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 399
 *** TIME = .112818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2962E-04 OSCILLATION LIMIT = 23.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 29.10      CRITERION= .2900
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4163E-01 CRITERION= .2883 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 400
*** TIME = .113607E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3049E-04 OSCILLATION LIMIT = 24.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.20      CRITERION= .2898
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4202E-01 CRITERION= .2881 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 401
*** TIME = .114396E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2963E-04 OSCILLATION LIMIT = 23.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.11      CRITERION= .2896
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4158E-01 CRITERION= .2879 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 402
*** TIME = .115185E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3043E-04 OSCILLATION LIMIT = 24.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.21      CRITERION= .2893
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4195E-01 CRITERION= .2877 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 403
*** TIME = .115974E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2964E-04 OSCILLATION LIMIT = 23.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.12      CRITERION= .2892
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4153E-01 CRITERION= .2874 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 404
*** TIME = .116763E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3038E-04 OSCILLATION LIMIT = 23.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.21      CRITERION= .2889
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4189E-01 CRITERION= .2873 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 405
*** TIME = .117552E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2964E-04 OSCILLATION LIMIT = 23.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.12      CRITERION= .2888
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4148E-01 CRITERION= .2870 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 406
*** TIME = .118341E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3034E-04 OSCILLATION LIMIT = 23.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.22      CRITERION= .2885
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
HT FLOW CONVERGENCE VALUE= .4185E-01 CRITERION= .2869 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 407
*** TIME = .119130E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2963E-04 OSCILLATION LIMIT = 23.38

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.13 CRITERION= .2883
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4144E-01 CRITERION= .2866 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 408
 *** TIME = .119919E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3029E-04 OSCILLATION LIMIT = 23.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.23 CRITERION= .2881
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4179E-01 CRITERION= .2864 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 409
 *** TIME = .120708E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2962E-04 OSCILLATION LIMIT = 23.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.14 CRITERION= .2879
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4139E-01 CRITERION= .2862 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 410
 *** TIME = .121497E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3025E-04 OSCILLATION LIMIT = 23.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.23 CRITERION= .2876
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4174E-01 CRITERION= .2860 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 411
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2961E-04 OSCILLATION LIMIT = 23.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.14 CRITERION= .2875
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4135E-01 CRITERION= .2857 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 412
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3022E-04 OSCILLATION LIMIT = 23.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.24 CRITERION= .2872
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4168E-01 CRITERION= .2856 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 413
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2960E-04 OSCILLATION LIMIT = 23.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.15 CRITERION= .2871
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4129E-01 CRITERION= .2853 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 414
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3018E-04 OSCILLATION LIMIT = 23.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.25 CRITERION= .2868
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4162E-01 CRITERION= .2852 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 415

*** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2958E-04 OSCILLATION LIMIT = 23.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.16 CRITERION= .2866
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7531E-01
 HT FLOW CONVERGENCE VALUE= .4123E-01 CRITERION= .2849 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 416
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3015E-04 OSCILLATION LIMIT = 23.79

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:46:46 JUN 12, 1995 CP= 26026.670
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.52 CRITERION= .2856
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2761E-01 CRITERION= .2848 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 417
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4301E-04 OSCILLATION LIMIT = 33.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.43 CRITERION= .2855
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2741E-01 CRITERION= .2845 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 418
 *** TIME = .127808E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4293E-04 OSCILLATION LIMIT = 33.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.52 CRITERION= .2853
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2804E-01 CRITERION= .2844 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 419
 *** TIME = .128597E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3902E-04 OSCILLATION LIMIT = 30.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.43 CRITERION= .2851
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2740E-01 CRITERION= .2842 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 420
 *** TIME = .129386E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4281E-04 OSCILLATION LIMIT = 33.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.53 CRITERION= .2849
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2798E-01 CRITERION= .2841 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 421
 *** TIME = .130175E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3932E-04 OSCILLATION LIMIT = 31.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.44 CRITERION= .2848
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2740E-01 CRITERION= .2838 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 422
*** TIME = .130964E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4249E-04 OSCILLATION LIMIT = 33.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.53 CRITERION= .2846
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2793E-01 CRITERION= .2837 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 423
*** TIME = .131753E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3955E-04 OSCILLATION LIMIT = 31.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.44 CRITERION= .2845
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2740E-01 CRITERION= .2835 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 424
*** TIME = .132542E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4224E-04 OSCILLATION LIMIT = 33.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.53 CRITERION= .2842
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2787E-01 CRITERION= .2834 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 425
*** TIME = .133331E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3972E-04 OSCILLATION LIMIT = 31.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.44 CRITERION= .2841
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2738E-01 CRITERION= .2831 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED. CUM ITER = 426
*** TIME = .134120E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4204E-04 OSCILLATION LIMIT = 33.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.54 CRITERION= .2839
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2782E-01 CRITERION= .2830 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED. CUM ITER = 427
*** TIME = .134909E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3985E-04 OSCILLATION LIMIT = 31.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.45 CRITERION= .2838
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2736E-01 CRITERION= .2828 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 12 COMPLETED. CUM ITER = 428
*** TIME = .135698E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4188E-04 OSCILLATION LIMIT = 33.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.54 CRITERION= .2835
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2778E-01 CRITERION= .2827 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED. CUM ITER = 429
*** TIME = .136487E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3995E-04 OSCILLATION LIMIT = 31.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.45 CRITERION= .2834

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2734E-01 CRITERION= .2824 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED. CUM ITER = 430
*** TIME = .137276E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4176E-04 OSCILLATION LIMIT = 32.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.54 CRITERION= .2832
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2773E-01 CRITERION= .2823 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED. CUM ITER = 431
*** TIME = .138065E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4002E-04 OSCILLATION LIMIT = 31.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.45 CRITERION= .2831
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2731E-01 CRITERION= .2821 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED. CUM ITER = 432
*** TIME = .138853E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4165E-04 OSCILLATION LIMIT = 32.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.55 CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2769E-01 CRITERION= .2820 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 433
*** TIME = .139642E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4007E-04 OSCILLATION LIMIT = 31.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.46 CRITERION= .2827
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2729E-01 CRITERION= .2817 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 434
*** TIME = .140431E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4157E-04 OSCILLATION LIMIT = 32.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.55 CRITERION= .2825
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2765E-01 CRITERION= .2816 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 435
*** TIME = .141220E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4010E-04 OSCILLATION LIMIT = 31.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.46 CRITERION= .2824
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2726E-01 CRITERION= .2814 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 436
*** TIME = .142009E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4149E-04 OSCILLATION LIMIT = 32.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.55 CRITERION= .2821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2761E-01 CRITERION= .2813 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 437
*** TIME = .142798E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4013E-04 OSCILLATION LIMIT = 31.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.46 CRITERION= .2820
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2723E-01 CRITERION= .2811 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 438
 *** TIME = .143587E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4143E-04 OSCILLATION LIMIT = 32.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.56 CRITERION= .2818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2758E-01 CRITERION= .2809 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 439
 *** TIME = .144376E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4014E-04 OSCILLATION LIMIT = 31.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.47 CRITERION= .2817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2720E-01 CRITERION= .2807 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 440
 *** TIME = .145165E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4138E-04 OSCILLATION LIMIT = 32.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.56 CRITERION= .2815
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2754E-01 CRITERION= .2806 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 441
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4014E-04 OSCILLATION LIMIT = 31.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.47 CRITERION= .2813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2717E-01 CRITERION= .2804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 442
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4133E-04 OSCILLATION LIMIT = 32.61
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.56 CRITERION= .2811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2750E-01 CRITERION= .2803 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 443
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4015E-04 OSCILLATION LIMIT = 31.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.47 CRITERION= .2810
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2714E-01 CRITERION= .2800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 444
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4129E-04 OSCILLATION LIMIT = 32.58
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.57 CRITERION= .2808
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
 HT FLOW CONVERGENCE VALUE= .2746E-01 CRITERION= .2799 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 445
 *** TIME = .149110E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .4014E-04  OSCILLATION LIMIT = 31.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.48  CRITERION= .2806
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2711E-01 CRITERION= .2797  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 446
*** TIME = .149899E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4126E-04  OSCILLATION LIMIT = 32.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.57  CRITERION= .2804
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2743E-01 CRITERION= .2796  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 447
*** TIME = .150688E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4014E-04  OSCILLATION LIMIT = 31.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.48  CRITERION= .2803
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2709E-01 CRITERION= .2793  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 448
*** TIME = .151477E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4122E-04  OSCILLATION LIMIT = 32.52
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.57  CRITERION= .2801
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2740E-01 CRITERION= .2792  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 449
*** TIME = .152265E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4013E-04  OSCILLATION LIMIT = 31.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.48  CRITERION= .2800
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2706E-01 CRITERION= .2790  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 450
*** TIME = .153054E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4119E-04  OSCILLATION LIMIT = 32.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.58  CRITERION= .2797
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2737E-01 CRITERION= .2789  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 451
*** TIME = .153843E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4012E-04  OSCILLATION LIMIT = 31.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.49  CRITERION= .2796
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2704E-01 CRITERION= .2786  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 452
*** TIME = .154632E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4116E-04  OSCILLATION LIMIT = 32.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.58  CRITERION= .2794
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
  HT FLOW CONVERGENCE VALUE= .2734E-01 CRITERION= .2785  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 453
*** TIME = .155421E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4010E-04 OSCILLATION LIMIT = 31.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2793
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2700E-01 CRITERION= .2783 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 454
*** TIME = .156210E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4113E-04 OSCILLATION LIMIT = 32.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.58 CRITERION= .2790
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2730E-01 CRITERION= .2782 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 455
*** TIME = .156999E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4009E-04 OSCILLATION LIMIT = 31.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2789
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5288E-01
HT FLOW CONVERGENCE VALUE= .2696E-01 CRITERION= .2779 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 456
*** TIME = .157788E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4110E-04 OSCILLATION LIMIT = 32.43

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 12:31:56 JUN 12, 1995 CP= 28574.710
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 15.11 CRITERION= .2783
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1829E-01 CRITERION= .2778 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 457
*** TIME = .158577E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8160E-04 OSCILLATION LIMIT = 64.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.02 CRITERION= .2782
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1803E-01 CRITERION= .2775 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 458
*** TIME = .159366E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8387E-04 OSCILLATION LIMIT = 66.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.11 CRITERION= .2779
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1827E-01 CRITERION= .2774 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 459
*** TIME = .160155E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .7896E-04 OSCILLATION LIMIT = 62.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.02 CRITERION= .2778
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01

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HT FLOW CONVERGENCE VALUE= .1800E-01 CRITERION= .2771 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 460
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8370E-04 OSCILLATION LIMIT = 66.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.11 CRITERION= .2775
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1824E-01 CRITERION= .2770 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 461
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7929E-04 OSCILLATION LIMIT = 62.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.02 CRITERION= .2774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1797E-01 CRITERION= .2767 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 462
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8346E-04 OSCILLATION LIMIT = 65.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.11 CRITERION= .2771
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1822E-01 CRITERION= .2766 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 463
 *** TIME = .163311E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7953E-04 OSCILLATION LIMIT = 62.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.02 CRITERION= .2770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1794E-01 CRITERION= .2763 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 464
 *** TIME = .164100E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8327E-04 OSCILLATION LIMIT = 65.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.12 CRITERION= .2767
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1819E-01 CRITERION= .2762 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 465
 *** TIME = .164888E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7972E-04 OSCILLATION LIMIT = 62.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.02 CRITERION= .2766
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1791E-01 CRITERION= .2759 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 466
 *** TIME = .165677E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8311E-04 OSCILLATION LIMIT = 65.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.12 CRITERION= .2763
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1816E-01 CRITERION= .2758 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 467
 *** TIME = .166466E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7986E-04 OSCILLATION LIMIT = 63.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.03 CRITERION= .2762
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1788E-01 CRITERION= .2755 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 468
 *** TIME = .167255E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8298E-04 OSCILLATION LIMIT = 65.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.12 CRITERION= .2759
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1813E-01 CRITERION= .2754 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 469
 *** TIME = .168044E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .7996E-04 OSCILLATION LIMIT = 63.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.03 CRITERION= .2758
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1785E-01 CRITERION= .2751 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 470
 *** TIME = .168833E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8288E-04 OSCILLATION LIMIT = 65.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.12 CRITERION= .2755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1811E-01 CRITERION= .2749 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 471
 *** TIME = .169622E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8004E-04 OSCILLATION LIMIT = 63.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.03 CRITERION= .2753
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1782E-01 CRITERION= .2747 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 472
 *** TIME = .170411E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8280E-04 OSCILLATION LIMIT = 65.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.12 CRITERION= .2751
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1808E-01 CRITERION= .2745 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 473
 *** TIME = .171200E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8011E-04 OSCILLATION LIMIT = 63.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.03 CRITERION= .2749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1779E-01 CRITERION= .2743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 474
 *** TIME = .171989E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8273E-04 OSCILLATION LIMIT = 65.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.12 CRITERION= .2747
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1805E-01 CRITERION= .2741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 475
 *** TIME = .172778E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8015E-04 OSCILLATION LIMIT = 63.23

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.03 CRITERION= .2745
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1777E-01 CRITERION= .2739 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 476
 *** TIME = .173567E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8268E-04 OSCILLATION LIMIT = 65.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.13 CRITERION= .2743
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1802E-01 CRITERION= .2737 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 477
 *** TIME = .174356E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8019E-04 OSCILLATION LIMIT = 63.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.03 CRITERION= .2741
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1774E-01 CRITERION= .2735 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 478
 *** TIME = .175145E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8263E-04 OSCILLATION LIMIT = 65.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.13 CRITERION= .2739
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1800E-01 CRITERION= .2733 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 479
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8021E-04 OSCILLATION LIMIT = 63.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.04 CRITERION= .2737
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1771E-01 CRITERION= .2730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 480
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8259E-04 OSCILLATION LIMIT = 65.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.13 CRITERION= .2735
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1797E-01 CRITERION= .2729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 481
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8023E-04 OSCILLATION LIMIT = 63.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.04 CRITERION= .2733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1768E-01 CRITERION= .2726 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 482
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8256E-04 OSCILLATION LIMIT = 65.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.13 CRITERION= .2731
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1794E-01 CRITERION= .2725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 483

*** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8025E-04 OSCILLATION LIMIT = 63.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.04 CRITERION= .2729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1766E-01 CRITERION= .2722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 484
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8253E-04 OSCILLATION LIMIT = 65.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.13 CRITERION= .2726
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1791E-01 CRITERION= .2721 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 485
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8026E-04 OSCILLATION LIMIT = 63.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.04 CRITERION= .2725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1763E-01 CRITERION= .2718 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 486
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8251E-04 OSCILLATION LIMIT = 65.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.13 CRITERION= .2722
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1788E-01 CRITERION= .2717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 487
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8026E-04 OSCILLATION LIMIT = 63.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.04 CRITERION= .2721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1760E-01 CRITERION= .2714 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 488
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8248E-04 OSCILLATION LIMIT = 65.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1785E-01 CRITERION= .2713 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 489
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8027E-04 OSCILLATION LIMIT = 63.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.04 CRITERION= .2717
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1758E-01 CRITERION= .2710 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 490
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8246E-04 OSCILLATION LIMIT = 65.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2714
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
 HT FLOW CONVERGENCE VALUE= .1783E-01 CRITERION= .2709 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 491
*** TIME = .185401E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8027E-04 OSCILLATION LIMIT = 63.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.05 CRITERION= .2713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1755E-01 CRITERION= .2706 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 492
*** TIME = .186190E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8244E-04 OSCILLATION LIMIT = 65.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2710
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1780E-01 CRITERION= .2705 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 493
*** TIME = .186979E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8027E-04 OSCILLATION LIMIT = 63.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.05 CRITERION= .2709
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1752E-01 CRITERION= .2702 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 494
*** TIME = .187768E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8242E-04 OSCILLATION LIMIT = 65.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.14 CRITERION= .2706
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1777E-01 CRITERION= .2701 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 495
*** TIME = .188557E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8028E-04 OSCILLATION LIMIT = 63.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.05 CRITERION= .2705
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3886E-01
HT FLOW CONVERGENCE VALUE= .1750E-01 CRITERION= .2698 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 496
*** TIME = .189346E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8241E-04 OSCILLATION LIMIT = 65.01

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 13:29:51 JUN 12, 1995 CP= 31178.840
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2700
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1328E-01 CRITERION= .2697 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 497
*** TIME = .190135E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8309E-04 OSCILLATION LIMIT = 65.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.22 CRITERION= .2699


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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1303E-01 CRITERION= .2695 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 498
*** TIME = .190924E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8505E-04 OSCILLATION LIMIT = 67.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2697
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1329E-01 CRITERION= .2694 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 499
*** TIME = .191712E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8231E-04 OSCILLATION LIMIT = 64.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.22 CRITERION= .2696
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1302E-01 CRITERION= .2692 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 500
*** TIME = .192501E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8511E-04 OSCILLATION LIMIT = 67.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2694
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1328E-01 CRITERION= .2691 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 501
*** TIME = .193290E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8230E-04 OSCILLATION LIMIT = 64.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.22 CRITERION= .2693
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1301E-01 CRITERION= .2688 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 502
*** TIME = .194079E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8510E-04 OSCILLATION LIMIT = 67.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2691
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1326E-01 CRITERION= .2688 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 503
*** TIME = .194868E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8229E-04 OSCILLATION LIMIT = 64.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.22 CRITERION= .2690
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1299E-01 CRITERION= .2685 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 504
*** TIME = .195657E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8509E-04 OSCILLATION LIMIT = 67.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2688
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1324E-01 CRITERION= .2684 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 505
*** TIME = .196446E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8229E-04 OSCILLATION LIMIT = 64.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.22    CRITERION= .2687
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1298E-01 CRITERION= .2682    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 506
*** TIME = .197235E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8508E-04 OSCILLATION LIMIT = 67.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32    CRITERION= .2684
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1323E-01 CRITERION= .2681    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 507
*** TIME = .198024E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.22    CRITERION= .2684
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1296E-01 CRITERION= .2679    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 508
*** TIME = .198813E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8507E-04 OSCILLATION LIMIT = 67.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32    CRITERION= .2681
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1321E-01 CRITERION= .2678    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 509
*** TIME = .199602E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.22    CRITERION= .2680
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1295E-01 CRITERION= .2676    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 510
*** TIME = .200391E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8506E-04 OSCILLATION LIMIT = 67.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32    CRITERION= .2678
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1319E-01 CRITERION= .2675    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 511
*** TIME = .201180E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23    CRITERION= .2677
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1293E-01 CRITERION= .2673    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 512
*** TIME = .201969E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8505E-04 OSCILLATION LIMIT = 67.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32    CRITERION= .2675
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1318E-01 CRITERION= .2672    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 513
*** TIME = .202758E+09 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2674
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1292E-01 CRITERION= .2670 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 514
*** TIME = .203547E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8504E-04 OSCILLATION LIMIT = 67.09
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2672
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1316E-01 CRITERION= .2669 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 515
*** TIME = .204335E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2671
EQUIL ITER 1 COMPLETE. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1290E-01 CRITERION= .2666 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 516
*** TIME = .205124E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8503E-04 OSCILLATION LIMIT = 67.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2669
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1314E-01 CRITERION= .2665 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 517
*** TIME = .205913E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2668
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .2663 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 518
*** TIME = .206702E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8502E-04 OSCILLATION LIMIT = 67.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2666
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1313E-01 CRITERION= .2662 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 519
*** TIME = .207491E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2665
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1287E-01 CRITERION= .2660 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 520
*** TIME = .208280E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8500E-04 OSCILLATION LIMIT = 67.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2662
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
HT FLOW CONVERGENCE VALUE= .1311E-01 CRITERION= .2659 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 521
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1286E-01 CRITERION= .2657 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 522
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8499E-04 OSCILLATION LIMIT = 67.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2659
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1309E-01 CRITERION= .2656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 523
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2658
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1284E-01 CRITERION= .2654 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 524
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8498E-04 OSCILLATION LIMIT = 67.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2656
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1308E-01 CRITERION= .2653 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 525
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8228E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2655
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1283E-01 CRITERION= .2651 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 526
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8497E-04 OSCILLATION LIMIT = 67.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2653
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1306E-01 CRITERION= .2650 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 527
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8227E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2652
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1281E-01 CRITERION= .2647 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 528
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8496E-04 OSCILLATION LIMIT = 67.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33 CRITERION= .2650
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01

HT FLOW CONVERGENCE VALUE= .1304E-01 CRITERION= .2647 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 529
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8227E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.23 CRITERION= .2649
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1280E-01 CRITERION= .2644 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 530
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8495E-04 OSCILLATION LIMIT = 67.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33 CRITERION= .2647
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1303E-01 CRITERION= .2643 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 531
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8227E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2646
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1278E-01 CRITERION= .2641 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 532
 *** TIME = .217747E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8494E-04 OSCILLATION LIMIT = 67.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33 CRITERION= .2644
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1301E-01 CRITERION= .2640 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 37 COMPLETED. CUM ITER = 533
 *** TIME = .218536E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8227E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2643
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1277E-01 CRITERION= .2638 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 38 COMPLETED. CUM ITER = 534
 *** TIME = .219325E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8492E-04 OSCILLATION LIMIT = 67.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33 CRITERION= .2640
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1299E-01 CRITERION= .2637 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 39 COMPLETED. CUM ITER = 535
 *** TIME = .220114E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8227E-04 OSCILLATION LIMIT = 64.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.24 CRITERION= .2639
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2913E-01
 HT FLOW CONVERGENCE VALUE= .1275E-01 CRITERION= .2635 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 40 COMPLETED. CUM ITER = 536
 *** TIME = .220903E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8491E-04 OSCILLATION LIMIT = 66.99

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:21:29 JUN 12, 1995 CP= 33783.130
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 9.586 CRITERION= .2637
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2744E-01
 HT FLOW CONVERGENCE VALUE= .1124E-01 CRITERION= .2634 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 1 COMPLETED. CUM ITER = 537
 *** TIME = .221692E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8647E-04 OSCILLATION LIMIT = 68.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.494 CRITERION= .2636
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2730E-01
 HT FLOW CONVERGENCE VALUE= .1102E-01 CRITERION= .2632 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 2 COMPLETED. CUM ITER = 538
 *** TIME = .222481E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8912E-04 OSCILLATION LIMIT = 70.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.587 CRITERION= .2634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2705E-01
 HT FLOW CONVERGENCE VALUE= .1120E-01 CRITERION= .2631 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 539
 *** TIME = .223270E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8617E-04 OSCILLATION LIMIT = 67.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.495 CRITERION= .2633
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2729E-01
 HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .2629 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 540
 *** TIME = .224059E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8912E-04 OSCILLATION LIMIT = 70.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.587 CRITERION= .2631
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2709E-01
 HT FLOW CONVERGENCE VALUE= .1119E-01 CRITERION= .2628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 541
 *** TIME = .224848E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8618E-04 OSCILLATION LIMIT = 67.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.496 CRITERION= .2630
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2726E-01
 HT FLOW CONVERGENCE VALUE= .1099E-01 CRITERION= .2626 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 542
 *** TIME = .225637E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8910E-04 OSCILLATION LIMIT = 70.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.588 CRITERION= .2628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2712E-01
 HT FLOW CONVERGENCE VALUE= .1118E-01 CRITERION= .2625 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 543
 *** TIME = .226426E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8619E-04 OSCILLATION LIMIT = 68.00

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.497 CRITERION= .2627
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2723E-01
 HT FLOW CONVERGENCE VALUE= .1097E-01 CRITERION= .2623 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 544
 *** TIME = .227215E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8909E-04 OSCILLATION LIMIT = 70.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.589 CRITERION= .2625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2715E-01
 HT FLOW CONVERGENCE VALUE= .1117E-01 CRITERION= .2622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 545
 *** TIME = .228004E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8620E-04 OSCILLATION LIMIT = 68.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.497 CRITERION= .2624
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
 HT FLOW CONVERGENCE VALUE= .1096E-01 CRITERION= .2620 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 546
 *** TIME = .228793E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8907E-04 OSCILLATION LIMIT = 70.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.589 CRITERION= .2622
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
 HT FLOW CONVERGENCE VALUE= .1116E-01 CRITERION= .2619 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 547
 *** TIME = .229582E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8621E-04 OSCILLATION LIMIT = 68.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.498 CRITERION= .2621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2720E-01
 HT FLOW CONVERGENCE VALUE= .1095E-01 CRITERION= .2617 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 548
 *** TIME = .230371E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8906E-04 OSCILLATION LIMIT = 70.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.590 CRITERION= .2619
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2718E-01
 HT FLOW CONVERGENCE VALUE= .1115E-01 CRITERION= .2616 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 549
 *** TIME = .231159E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8622E-04 OSCILLATION LIMIT = 68.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.499 CRITERION= .2618
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2719E-01
 HT FLOW CONVERGENCE VALUE= .1093E-01 CRITERION= .2614 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 550
 *** TIME = .231948E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8905E-04 OSCILLATION LIMIT = 70.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.591 CRITERION= .2616
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2719E-01
 HT FLOW CONVERGENCE VALUE= .1113E-01 CRITERION= .2613 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 551

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*** TIME = .232737E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8623E-04    OSCILLATION LIMIT = 68.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.500    CRITERION= .2615
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2718E-01
    HT FLOW CONVERGENCE VALUE= .1092E-01    CRITERION= .2611    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 552
*** TIME = .233526E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8904E-04    OSCILLATION LIMIT = 70.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.592    CRITERION= .2613
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2720E-01
    HT FLOW CONVERGENCE VALUE= .1112E-01    CRITERION= .2610    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 553
*** TIME = .234315E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8623E-04    OSCILLATION LIMIT = 68.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.500    CRITERION= .2612
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
    HT FLOW CONVERGENCE VALUE= .1091E-01    CRITERION= .2608    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 554
*** TIME = .235104E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8903E-04    OSCILLATION LIMIT = 70.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.592    CRITERION= .2610
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2720E-01
    HT FLOW CONVERGENCE VALUE= .1111E-01    CRITERION= .2607    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 555
*** TIME = .235893E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8623E-04    OSCILLATION LIMIT = 68.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.501    CRITERION= .2609
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
    HT FLOW CONVERGENCE VALUE= .1089E-01    CRITERION= .2605    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 556
*** TIME = .236682E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8902E-04    OSCILLATION LIMIT = 70.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.593    CRITERION= .2607
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
    HT FLOW CONVERGENCE VALUE= .1109E-01    CRITERION= .2604    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 557
*** TIME = .237471E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8624E-04    OSCILLATION LIMIT = 68.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.502    CRITERION= .2606
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
    HT FLOW CONVERGENCE VALUE= .1088E-01    CRITERION= .2602    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 558
*** TIME = .238260E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8901E-04    OSCILLATION LIMIT = 70.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.594    CRITERION= .2604
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
    HT FLOW CONVERGENCE VALUE= .1108E-01    CRITERION= .2601    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 559
*** TIME = .239049E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8624E-04 OSCILLATION LIMIT = 68.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.502 CRITERION= .2603
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
HT FLOW CONVERGENCE VALUE= .1087E-01 CRITERION= .2599 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 560
*** TIME = .239838E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8900E-04 OSCILLATION LIMIT = 70.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.594 CRITERION= .2601
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
HT FLOW CONVERGENCE VALUE= .1107E-01 CRITERION= .2598 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 561
*** TIME = .240627E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8624E-04 OSCILLATION LIMIT = 68.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.503 CRITERION= .2600
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
HT FLOW CONVERGENCE VALUE= .1086E-01 CRITERION= .2596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 562
*** TIME = .241416E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8899E-04 OSCILLATION LIMIT = 70.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.595 CRITERION= .2598
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
HT FLOW CONVERGENCE VALUE= .1105E-01 CRITERION= .2595 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 563
*** TIME = .242205E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8625E-04 OSCILLATION LIMIT = 68.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.504 CRITERION= .2597
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
HT FLOW CONVERGENCE VALUE= .1084E-01 CRITERION= .2593 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 564
*** TIME = .242994E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8899E-04 OSCILLATION LIMIT = 70.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.596 CRITERION= .2595
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
HT FLOW CONVERGENCE VALUE= .1104E-01 CRITERION= .2592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 565
*** TIME = .243782E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8625E-04 OSCILLATION LIMIT = 68.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.505 CRITERION= .2594
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
HT FLOW CONVERGENCE VALUE= .1083E-01 CRITERION= .2590 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 566
*** TIME = .244571E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8898E-04 OSCILLATION LIMIT = 70.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.596 CRITERION= .2592
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
 HT FLOW CONVERGENCE VALUE= .1103E-01 CRITERION= .2589 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 567
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8625E-04 OSCILLATION LIMIT = 68.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.505 CRITERION= .2591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
 HT FLOW CONVERGENCE VALUE= .1082E-01 CRITERION= .2587 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 568
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8897E-04 OSCILLATION LIMIT = 70.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.597 CRITERION= .2589
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
 HT FLOW CONVERGENCE VALUE= .1101E-01 CRITERION= .2586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 569
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8625E-04 OSCILLATION LIMIT = 68.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.506 CRITERION= .2588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2717E-01
 HT FLOW CONVERGENCE VALUE= .1081E-01 CRITERION= .2584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 570
 *** TIME = .247727E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8896E-04 OSCILLATION LIMIT = 70.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.598 CRITERION= .2586
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
 HT FLOW CONVERGENCE VALUE= .1100E-01 CRITERION= .2583 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 571
 *** TIME = .248516E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8625E-04 OSCILLATION LIMIT = 68.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.507 CRITERION= .2585
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2718E-01
 HT FLOW CONVERGENCE VALUE= .1079E-01 CRITERION= .2581 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 572
 *** TIME = .249305E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8896E-04 OSCILLATION LIMIT = 70.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.598 CRITERION= .2583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
 HT FLOW CONVERGENCE VALUE= .1099E-01 CRITERION= .2580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 573
 *** TIME = .250094E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8625E-04 OSCILLATION LIMIT = 68.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.508 CRITERION= .2582
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2718E-01
 HT FLOW CONVERGENCE VALUE= .1078E-01 CRITERION= .2578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 574
 *** TIME = .250883E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8895E-04 OSCILLATION LIMIT = 70.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.599 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2721E-01
 HT FLOW CONVERGENCE VALUE= .1097E-01 CRITERION= .2577 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 575
 *** TIME = .251672E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8626E-04 OSCILLATION LIMIT = 68.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.508 CRITERION= .2579
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2718E-01
 HT FLOW CONVERGENCE VALUE= .1077E-01 CRITERION= .2575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 576
 *** TIME = .252461E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8894E-04 OSCILLATION LIMIT = 70.17

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:20:19 JUN 12, 1995 CP= 36371.870
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4305E-01
 HT FLOW CONVERGENCE VALUE= .1303E-01 CRITERION= .2574 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 577
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4295E-04 OSCILLATION LIMIT = 33.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.268 CRITERION= .2574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4324E-01
 HT FLOW CONVERGENCE VALUE= .1320E-01 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 578
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4301E-04 OSCILLATION LIMIT = 33.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4058E-01
 HT FLOW CONVERGENCE VALUE= .1223E-01 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 579
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4326E-04 OSCILLATION LIMIT = 34.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4308E-01
 HT FLOW CONVERGENCE VALUE= .1307E-01 CRITERION= .2570 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 580
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4310E-04 OSCILLATION LIMIT = 34.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2570
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4092E-01
 HT FLOW CONVERGENCE VALUE= .1231E-01 CRITERION= .2569 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 581
 *** TIME = .256406E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .4318E-04 OSCILLATION LIMIT = 34.07
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2569
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4278E-01
 HT FLOW CONVERGENCE VALUE= .1297E-01 CRITERION= .2567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 582
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4316E-04 OSCILLATION LIMIT = 34.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2567
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4119E-01
 HT FLOW CONVERGENCE VALUE= .1237E-01 CRITERION= .2566 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 583
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4312E-04 OSCILLATION LIMIT = 34.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4256E-01
 HT FLOW CONVERGENCE VALUE= .1289E-01 CRITERION= .2564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 584
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4320E-04 OSCILLATION LIMIT = 34.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2564
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4139E-01
 HT FLOW CONVERGENCE VALUE= .1242E-01 CRITERION= .2563 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 585
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4308E-04 OSCILLATION LIMIT = 33.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2563
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4239E-01
 HT FLOW CONVERGENCE VALUE= .1282E-01 CRITERION= .2561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 586
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4324E-04 OSCILLATION LIMIT = 34.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4155E-01
 HT FLOW CONVERGENCE VALUE= .1245E-01 CRITERION= .2561 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 587
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4305E-04 OSCILLATION LIMIT = 33.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2561
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4227E-01
 HT FLOW CONVERGENCE VALUE= .1277E-01 CRITERION= .2559 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 588
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4326E-04 OSCILLATION LIMIT = 34.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2559
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4167E-01
 HT FLOW CONVERGENCE VALUE= .1247E-01 CRITERION= .2558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 589
 *** TIME = .262717E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4302E-04 OSCILLATION LIMIT = 33.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2558
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4218E-01
 HT FLOW CONVERGENCE VALUE= .1273E-01 CRITERION= .2556 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 590
 *** TIME = .263506E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4328E-04 OSCILLATION LIMIT = 34.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2556
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4176E-01
 HT FLOW CONVERGENCE VALUE= .1248E-01 CRITERION= .2555 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 591
 *** TIME = .264295E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4300E-04 OSCILLATION LIMIT = 33.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2555
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4211E-01
 HT FLOW CONVERGENCE VALUE= .1269E-01 CRITERION= .2553 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 592
 *** TIME = .265084E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4329E-04 OSCILLATION LIMIT = 34.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4184E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2552 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 593
 *** TIME = .265873E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4298E-04 OSCILLATION LIMIT = 33.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2552
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4206E-01
 HT FLOW CONVERGENCE VALUE= .1266E-01 CRITERION= .2550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 594
 *** TIME = .266662E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4330E-04 OSCILLATION LIMIT = 34.16
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4189E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2549 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 595
 *** TIME = .267451E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4297E-04 OSCILLATION LIMIT = 33.90
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2549
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4202E-01
 HT FLOW CONVERGENCE VALUE= .1263E-01 CRITERION= .2547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 596
 *** TIME = .268240E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4331E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4193E-01

HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 597
 *** TIME = .269029E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4296E-04 OSCILLATION LIMIT = 33.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4200E-01
 HT FLOW CONVERGENCE VALUE= .1261E-01 CRITERION= .2545 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 598
 *** TIME = .269818E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4331E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2545
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4196E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 599
 *** TIME = .270606E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4295E-04 OSCILLATION LIMIT = 33.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4198E-01
 HT FLOW CONVERGENCE VALUE= .1259E-01 CRITERION= .2542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 600
 *** TIME = .271395E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4332E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2542
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4199E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2541 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 25 COMPLETED. CUM ITER = 601
 *** TIME = .272184E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4294E-04 OSCILLATION LIMIT = 33.88
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2541
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4197E-01
 HT FLOW CONVERGENCE VALUE= .1257E-01 CRITERION= .2539 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 26 COMPLETED. CUM ITER = 602
 *** TIME = .272973E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4332E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4201E-01
 HT FLOW CONVERGENCE VALUE= .1248E-01 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 27 COMPLETED. CUM ITER = 603
 *** TIME = .273762E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4294E-04 OSCILLATION LIMIT = 33.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2538
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4197E-01
 HT FLOW CONVERGENCE VALUE= .1255E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 28 COMPLETED. CUM ITER = 604
 *** TIME = .274551E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4332E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4202E-01
 HT FLOW CONVERGENCE VALUE= .1247E-01 CRITERION= .2536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 29 COMPLETED. CUM ITER = 605
 *** TIME = .275340E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4293E-04 OSCILLATION LIMIT = 33.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4197E-01
 HT FLOW CONVERGENCE VALUE= .1254E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 30 COMPLETED. CUM ITER = 606
 *** TIME = .276129E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4332E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2534
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4204E-01
 HT FLOW CONVERGENCE VALUE= .1246E-01 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 31 COMPLETED. CUM ITER = 607
 *** TIME = .276918E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4293E-04 OSCILLATION LIMIT = 33.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4197E-01
 HT FLOW CONVERGENCE VALUE= .1252E-01 CRITERION= .2531 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 608
 *** TIME = .277707E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4332E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2531
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4205E-01
 HT FLOW CONVERGENCE VALUE= .1245E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 609
 *** TIME = .278496E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4292E-04 OSCILLATION LIMIT = 33.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4197E-01
 HT FLOW CONVERGENCE VALUE= .1251E-01 CRITERION= .2528 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 610
 *** TIME = .279285E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4331E-04 OSCILLATION LIMIT = 34.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2528
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4205E-01
 HT FLOW CONVERGENCE VALUE= .1244E-01 CRITERION= .2527 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 611
 *** TIME = .280074E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4292E-04 OSCILLATION LIMIT = 33.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2527
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4198E-01
 HT FLOW CONVERGENCE VALUE= .1249E-01 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 612
 *** TIME = .280863E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4331E-04 OSCILLATION LIMIT = 34.17

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4206E-01
HT FLOW CONVERGENCE VALUE= .1243E-01 CRITERION= .2525 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 613
*** TIME = .281652E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4292E-04 OSCILLATION LIMIT = 33.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2525
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4198E-01
HT FLOW CONVERGENCE VALUE= .1248E-01 CRITERION= .2523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 614
*** TIME = .282441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4331E-04 OSCILLATION LIMIT = 34.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.359 CRITERION= .2523
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4207E-01
HT FLOW CONVERGENCE VALUE= .1242E-01 CRITERION= .2522 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 615
*** TIME = .283229E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4291E-04 OSCILLATION LIMIT = 33.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.269 CRITERION= .2522
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4199E-01
HT FLOW CONVERGENCE VALUE= .1246E-01 CRITERION= .2520 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 616
*** TIME = .284018E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4331E-04 OSCILLATION LIMIT = 34.17
Apply loads and solve for 10 to 90 years

*DO LOOP ON PARAMETER= TM FROM .31558E+09 TO .28402E+10 BY .31558E+09
TIME= .31558E+09

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
4464.28518 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 145.65 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP
VALUES = 146.46 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP
VALUES = 148.56 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 38978.570 TIME= 16:08:36
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 16:08:36 JUN 12, 1995 CP= 38978.570
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 22
TIME AT END OF THE LOAD STEP.31558E+09
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .7265 CRITERION= .2520
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3420E-01
HT FLOW CONVERGENCE VALUE= .1043E-01 CRITERION= .2519 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 617
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3983E-04 OSCILLATION LIMIT = 31.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6380 CRITERION= .2519
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3369E-01
HT FLOW CONVERGENCE VALUE= .1023E-01 CRITERION= .2518 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 618
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4055E-04 OSCILLATION LIMIT = 32.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7265 CRITERION= .2518
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3464E-01
HT FLOW CONVERGENCE VALUE= .1041E-01 CRITERION= .2517 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 619
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3998E-04 OSCILLATION LIMIT = 31.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6380 CRITERION= .2517
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3379E-01
HT FLOW CONVERGENCE VALUE= .1025E-01 CRITERION= .2515 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 620
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4053E-04 OSCILLATION LIMIT = 31.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7265 CRITERION= .2515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3455E-01
HT FLOW CONVERGENCE VALUE= .1037E-01 CRITERION= .2515 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 621
*** TIME = .287963E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .3999E-04 OSCILLATION LIMIT = 31.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6380 CRITERION= .2515
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3388E-01
HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .2513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 622
*** TIME = .288752E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4051E-04 OSCILLATION LIMIT = 31.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7264 CRITERION= .2513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3448E-01
HT FLOW CONVERGENCE VALUE= .1035E-01 CRITERION= .2513 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 623
*** TIME = .289541E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4000E-04 OSCILLATION LIMIT = 31.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6380 CRITERION= .2513
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3395E-01
HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 624
*** TIME = .290330E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4050E-04 OSCILLATION LIMIT = 31.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7264 CRITERION= .2511
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3442E-01
HT FLOW CONVERGENCE VALUE= .1032E-01 CRITERION= .2510 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 625
*** TIME = .291119E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6380 CRITERION= .2510
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3401E-01
HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2509 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 626
*** TIME = .291908E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4049E-04 OSCILLATION LIMIT = 31.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7264 CRITERION= .2509
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3438E-01

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HT FLOW CONVERGENCE VALUE= .1031E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 627
 *** TIME = .292697E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6381 CRITERION= .2508
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3405E-01
 HT FLOW CONVERGENCE VALUE= .1028E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 628
 *** TIME = .293486E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4048E-04 OSCILLATION LIMIT = 31.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7264 CRITERION= .2507
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3435E-01
 HT FLOW CONVERGENCE VALUE= .1029E-01 CRITERION= .2506 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 629
 *** TIME = .294275E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6381 CRITERION= .2506
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3409E-01
 HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 630
 *** TIME = .295064E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4047E-04 OSCILLATION LIMIT = 31.93
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7264 CRITERION= .2504
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3433E-01
 HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 631
 *** TIME = .295853E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4002E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6381 CRITERION= .2504
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3412E-01
 HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2502 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 632
 *** TIME = .296641E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4046E-04 OSCILLATION LIMIT = 31.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7263 CRITERION= .2502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3431E-01
 HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .2502 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 633
 *** TIME = .297430E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4002E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6381 CRITERION= .2502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3414E-01
 HT FLOW CONVERGENCE VALUE= .1027E-01 CRITERION= .2500 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 634
 *** TIME = .298219E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4046E-04 OSCILLATION LIMIT = 31.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7263 CRITERION= .2500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3430E-01
 HT FLOW CONVERGENCE VALUE= .1025E-01 CRITERION= .2499 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 635
 *** TIME = .299008E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4002E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6382 CRITERION= .2499
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3416E-01
 HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .2498 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 636
 *** TIME = .299797E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4045E-04 OSCILLATION LIMIT = 31.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7263 CRITERION= .2498
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3429E-01
 HT FLOW CONVERGENCE VALUE= .1024E-01 CRITERION= .2497 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 637
 *** TIME = .300586E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4002E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6382 CRITERION= .2497
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3417E-01
 HT FLOW CONVERGENCE VALUE= .1026E-01 CRITERION= .2496 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 638
 *** TIME = .301375E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4045E-04 OSCILLATION LIMIT = 31.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7263 CRITERION= .2496
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3428E-01
 HT FLOW CONVERGENCE VALUE= .1023E-01 CRITERION= .2495 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 639
 *** TIME = .302164E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4002E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6382 CRITERION= .2495
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3419E-01
 HT FLOW CONVERGENCE VALUE= .1025E-01 CRITERION= .2493 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 640
 *** TIME = .302953E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4044E-04 OSCILLATION LIMIT = 31.91
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7263 CRITERION= .2493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3428E-01
 HT FLOW CONVERGENCE VALUE= .1022E-01 CRITERION= .2493 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 641
 *** TIME = .303742E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6382 CRITERION= .2493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3420E-01
 HT FLOW CONVERGENCE VALUE= .1024E-01 CRITERION= .2491 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 642
 *** TIME = .304531E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .4044E-04 OSCILLATION LIMIT = 31.90

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7263 CRITERION= .2491
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3427E-01
HT FLOW CONVERGENCE VALUE= .1021E-01 CRITERION= .2491 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 643
*** TIME = .305320E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6382 CRITERION= .2491
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3421E-01
HT FLOW CONVERGENCE VALUE= .1024E-01 CRITERION= .2489 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 644
*** TIME = .306109E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4044E-04 OSCILLATION LIMIT = 31.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7262 CRITERION= .2489
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3427E-01
HT FLOW CONVERGENCE VALUE= .1020E-01 CRITERION= .2488 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 645
*** TIME = .306898E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6383 CRITERION= .2488
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3422E-01
HT FLOW CONVERGENCE VALUE= .1023E-01 CRITERION= .2487 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 646
*** TIME = .307687E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4043E-04 OSCILLATION LIMIT = 31.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7262 CRITERION= .2487
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3427E-01
HT FLOW CONVERGENCE VALUE= .1019E-01 CRITERION= .2486 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 647
*** TIME = .308476E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6383 CRITERION= .2486
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3423E-01
HT FLOW CONVERGENCE VALUE= .1022E-01 CRITERION= .2485 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 648
*** TIME = .309265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4043E-04 OSCILLATION LIMIT = 31.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .7262 CRITERION= .2485
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3427E-01
HT FLOW CONVERGENCE VALUE= .1018E-01 CRITERION= .2484 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 649
*** TIME = .310053E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4001E-04 OSCILLATION LIMIT = 31.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= .6383 CRITERION= .2484
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3423E-01
HT FLOW CONVERGENCE VALUE= .1021E-01 CRITERION= .2482 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 650

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*** TIME = .310842E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4043E-04    OSCILLATION LIMIT = 31.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .7262    CRITERION= .2482
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3428E-01
    HT FLOW CONVERGENCE VALUE= .1018E-01    CRITERION= .2482    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 651
*** TIME = .311631E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4000E-04    OSCILLATION LIMIT = 31.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .6383    CRITERION= .2482
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3424E-01
    HT FLOW CONVERGENCE VALUE= .1021E-01    CRITERION= .2480    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 652
*** TIME = .312420E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4043E-04    OSCILLATION LIMIT = 31.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .7262    CRITERION= .2480
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3428E-01
    HT FLOW CONVERGENCE VALUE= .1017E-01    CRITERION= .2480    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 653
*** TIME = .313209E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4000E-04    OSCILLATION LIMIT = 31.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .6384    CRITERION= .2480
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3425E-01
    HT FLOW CONVERGENCE VALUE= .1020E-01    CRITERION= .2478    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 654
*** TIME = .313998E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4042E-04    OSCILLATION LIMIT = 31.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .7261    CRITERION= .2478
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3428E-01
    HT FLOW CONVERGENCE VALUE= .1016E-01    CRITERION= .2477    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 655
*** TIME = .314787E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4000E-04    OSCILLATION LIMIT = 31.56
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= .6384    CRITERION= .2477
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3425E-01
    HT FLOW CONVERGENCE VALUE= .1019E-01    CRITERION= .2476    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 656
*** TIME = .315576E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .4042E-04    OSCILLATION LIMIT = 31.89

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX    16:53:59 JUN 12, 1995 CP= 41553.380
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 29.96 CRITERION= .2493

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4471
HT FLOW CONVERGENCE VALUE= .1543 CRITERION= .2466 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 657
*** TIME = .323465E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2080E-04 OSCILLATION LIMIT = 164.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.04 CRITERION= .2483
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4133
HT FLOW CONVERGENCE VALUE= .1494 CRITERION= .2454 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 658
*** TIME = .331355E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1967E-04 OSCILLATION LIMIT = 155.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.95 CRITERION= .2472
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4134
HT FLOW CONVERGENCE VALUE= .1483 CRITERION= .2444 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 659
*** TIME = .339244E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1966E-04 OSCILLATION LIMIT = 155.1
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.04 CRITERION= .2462
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4156
HT FLOW CONVERGENCE VALUE= .1484 CRITERION= .2433 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 660
*** TIME = .347134E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1973E-04 OSCILLATION LIMIT = 155.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.94 CRITERION= .2451
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4140
HT FLOW CONVERGENCE VALUE= .1471 CRITERION= .2423 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 661
*** TIME = .355023E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1967E-04 OSCILLATION LIMIT = 155.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.03 CRITERION= .2441
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4162
HT FLOW CONVERGENCE VALUE= .1472 CRITERION= .2411 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 662
*** TIME = .362912E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1974E-04 OSCILLATION LIMIT = 155.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.94 CRITERION= .2429
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4146
HT FLOW CONVERGENCE VALUE= .1461 CRITERION= .2401 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 663
*** TIME = .370802E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1967E-04 OSCILLATION LIMIT = 155.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.02 CRITERION= .2419
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4168
HT FLOW CONVERGENCE VALUE= .1461 CRITERION= .2390 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 664
*** TIME = .378691E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1974E-04 OSCILLATION LIMIT = 155.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 29.93 CRITERION= .2408
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4152
 HT FLOW CONVERGENCE VALUE= .1451 CRITERION= .2380 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 665
 *** TIME = .386581E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1968E-04 OSCILLATION LIMIT = 155.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.02 CRITERION= .2398
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4174
 HT FLOW CONVERGENCE VALUE= .1452 CRITERION= .2368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 666
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1975E-04 OSCILLATION LIMIT = 155.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.92 CRITERION= .2387
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4158
 HT FLOW CONVERGENCE VALUE= .1440 CRITERION= .2358 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 667
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1969E-04 OSCILLATION LIMIT = 155.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.01 CRITERION= .2377
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4180
 HT FLOW CONVERGENCE VALUE= .1436 CRITERION= .2347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 668
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1976E-04 OSCILLATION LIMIT = 155.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.91 CRITERION= .2366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4165
 HT FLOW CONVERGENCE VALUE= .1423 CRITERION= .2337 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 669
 *** TIME = .418138E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1970E-04 OSCILLATION LIMIT = 155.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 30.00 CRITERION= .2356
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4185
 HT FLOW CONVERGENCE VALUE= .1420 CRITERION= .2325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 670
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1976E-04 OSCILLATION LIMIT = 155.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.91 CRITERION= .2344
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4171
 HT FLOW CONVERGENCE VALUE= .1407 CRITERION= .2315 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 671
 *** TIME = .433917E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1971E-04 OSCILLATION LIMIT = 155.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.99 CRITERION= .2334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4191
 HT FLOW CONVERGENCE VALUE= .1405 CRITERION= .2304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 672
 *** TIME = .441806E+09 TIME INC = .788940E+07


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*** RESPONSE EIGENVALUE = .1977E-04  OSCILLATION LIMIT = 156.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.90  CRITERION= .2323
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4178
  HT FLOW CONVERGENCE VALUE= .1392  CRITERION= .2294  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 17 COMPLETED.  CUM ITER = 673
*** TIME = .449696E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1971E-04  OSCILLATION LIMIT = 155.5
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.99  CRITERION= .2313
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4198
  HT FLOW CONVERGENCE VALUE= .1392  CRITERION= .2283  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 18 COMPLETED.  CUM ITER = 674
*** TIME = .457585E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1978E-04  OSCILLATION LIMIT = 156.0
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.89  CRITERION= .2302
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4184
  HT FLOW CONVERGENCE VALUE= .1381  CRITERION= .2272  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 19 COMPLETED.  CUM ITER = 675
*** TIME = .465475E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1972E-04  OSCILLATION LIMIT = 155.6
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.98  CRITERION= .2292
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4204
  HT FLOW CONVERGENCE VALUE= .1379  CRITERION= .2261  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 20 COMPLETED.  CUM ITER = 676
*** TIME = .473364E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1978E-04  OSCILLATION LIMIT = 156.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.89  CRITERION= .2280
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4191
  HT FLOW CONVERGENCE VALUE= .1368  CRITERION= .2251  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 21 COMPLETED.  CUM ITER = 677
*** TIME = .481253E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1973E-04  OSCILLATION LIMIT = 155.7
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.97  CRITERION= .2270
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4209
  HT FLOW CONVERGENCE VALUE= .1367  CRITERION= .2240  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 22 COMPLETED.  CUM ITER = 678
*** TIME = .489143E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1979E-04  OSCILLATION LIMIT = 156.1
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.88  CRITERION= .2259
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4196
  HT FLOW CONVERGENCE VALUE= .1356  CRITERION= .2230  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 23 COMPLETED.  CUM ITER = 679
*** TIME = .497032E+09  TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1974E-04  OSCILLATION LIMIT = 155.7
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+07  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 29.97  CRITERION= .2249
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4215
  HT FLOW CONVERGENCE VALUE= .1352  CRITERION= .2218  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 680
*** TIME = .504922E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1979E-04 OSCILLATION LIMIT = 156.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.87 CRITERION= .2238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4203
HT FLOW CONVERGENCE VALUE= .1341 CRITERION= .2208 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 681
*** TIME = .512811E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1974E-04 OSCILLATION LIMIT = 155.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.96 CRITERION= .2228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4221
HT FLOW CONVERGENCE VALUE= .1340 CRITERION= .2197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 682
*** TIME = .520700E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1980E-04 OSCILLATION LIMIT = 156.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.86 CRITERION= .2216
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4209
HT FLOW CONVERGENCE VALUE= .1330 CRITERION= .2187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 683
*** TIME = .528590E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1975E-04 OSCILLATION LIMIT = 155.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.95 CRITERION= .2206
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4227
HT FLOW CONVERGENCE VALUE= .1330 CRITERION= .2175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 684
*** TIME = .536479E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1981E-04 OSCILLATION LIMIT = 156.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.86 CRITERION= .2195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4216
HT FLOW CONVERGENCE VALUE= .1320 CRITERION= .2165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 685
*** TIME = .544369E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1976E-04 OSCILLATION LIMIT = 155.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.94 CRITERION= .2185
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4233
HT FLOW CONVERGENCE VALUE= .1318 CRITERION= .2154 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 686
*** TIME = .552258E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1981E-04 OSCILLATION LIMIT = 156.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.85 CRITERION= .2174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4222
HT FLOW CONVERGENCE VALUE= .1307 CRITERION= .2144 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 687
*** TIME = .560147E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1977E-04 OSCILLATION LIMIT = 155.9
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.94 CRITERION= .2164
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4240

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HT FLOW CONVERGENCE VALUE= .1305 CRITERION= .2132 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 688
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1982E-04 OSCILLATION LIMIT = 156.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.84 CRITERION= .2153
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4229
 HT FLOW CONVERGENCE VALUE= .1295 CRITERION= .2122 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 689
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1977E-04 OSCILLATION LIMIT = 156.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.93 CRITERION= .2143
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4246
 HT FLOW CONVERGENCE VALUE= .1286 CRITERION= .2111 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 690
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1983E-04 OSCILLATION LIMIT = 156.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.84 CRITERION= .2131
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4235
 HT FLOW CONVERGENCE VALUE= .1249 CRITERION= .2101 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 691
 *** TIME = .591705E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1978E-04 OSCILLATION LIMIT = 156.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.92 CRITERION= .2121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4253
 HT FLOW CONVERGENCE VALUE= .1229 CRITERION= .2089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 692
 *** TIME = .599594E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1984E-04 OSCILLATION LIMIT = 156.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.83 CRITERION= .2110
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4243
 HT FLOW CONVERGENCE VALUE= .1219 CRITERION= .2079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 693
 *** TIME = .607484E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1979E-04 OSCILLATION LIMIT = 156.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.92 CRITERION= .2100
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4259
 HT FLOW CONVERGENCE VALUE= .1216 CRITERION= .2068 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 694
 *** TIME = .615373E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1984E-04 OSCILLATION LIMIT = 156.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 29.82 CRITERION= .2089
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4250
 HT FLOW CONVERGENCE VALUE= .1203 CRITERION= .2058 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 695
 *** TIME = .623263E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1980E-04 OSCILLATION LIMIT = 156.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 29.91    CRITERION= .2079
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4266
HT FLOW CONVERGENCE VALUE= .1197    CRITERION= .2046    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 696
*** TIME = .631152E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1985E-04    OSCILLATION LIMIT = 156.6

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    17:37:35 JUN 12, 1995 CP= 44110.820
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 57.12    CRITERION= .2124
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3972
HT FLOW CONVERGENCE VALUE= .1318    CRITERION= .2038    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 697
*** TIME = .639041E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9548E-05    OSCILLATION LIMIT = 75.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 57.19    CRITERION= .2117
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3966
HT FLOW CONVERGENCE VALUE= .1302    CRITERION= .2030    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 698
*** TIME = .646931E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9489E-05    OSCILLATION LIMIT = 74.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 57.09    CRITERION= .2108
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3960
HT FLOW CONVERGENCE VALUE= .1292    CRITERION= .2022    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 699
*** TIME = .654820E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9455E-05    OSCILLATION LIMIT = 74.59
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 57.17    CRITERION= .2101
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3974
HT FLOW CONVERGENCE VALUE= .1290    CRITERION= .2014    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 700
*** TIME = .662710E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9513E-05    OSCILLATION LIMIT = 75.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 57.06    CRITERION= .2093
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3965
HT FLOW CONVERGENCE VALUE= .1282    CRITERION= .2006    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 701
*** TIME = .670599E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9468E-05    OSCILLATION LIMIT = 74.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 57.14    CRITERION= .2086
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3979
HT FLOW CONVERGENCE VALUE= .1281    CRITERION= .1998    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 702
*** TIME = .678488E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9526E-05    OSCILLATION LIMIT = 75.15

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.04 CRITERION= .2077
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3971
HT FLOW CONVERGENCE VALUE= .1272 CRITERION= .1990 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 703
*** TIME = .686378E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9482E-05 OSCILLATION LIMIT = 74.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.12 CRITERION= .2070
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3984
HT FLOW CONVERGENCE VALUE= .1270 CRITERION= .1982 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 704
*** TIME = .694267E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9537E-05 OSCILLATION LIMIT = 75.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.01 CRITERION= .2062
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3978
HT FLOW CONVERGENCE VALUE= .1262 CRITERION= .1974 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 705
*** TIME = .702157E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9495E-05 OSCILLATION LIMIT = 74.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.09 CRITERION= .2055
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3992
HT FLOW CONVERGENCE VALUE= .1260 CRITERION= .1966 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 706
*** TIME = .710046E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9550E-05 OSCILLATION LIMIT = 75.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.99 CRITERION= .2046
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3984
HT FLOW CONVERGENCE VALUE= .1252 CRITERION= .1958 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 707
*** TIME = .717935E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9508E-05 OSCILLATION LIMIT = 75.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.06 CRITERION= .2039
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3998
HT FLOW CONVERGENCE VALUE= .1251 CRITERION= .1950 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 708
*** TIME = .725825E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9562E-05 OSCILLATION LIMIT = 75.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.96 CRITERION= .2031
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3991
HT FLOW CONVERGENCE VALUE= .1243 CRITERION= .1942 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 709
*** TIME = .733714E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9522E-05 OSCILLATION LIMIT = 75.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.04 CRITERION= .2024
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4004
HT FLOW CONVERGENCE VALUE= .1242 CRITERION= .1934 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 710

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*** TIME = .741604E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9575E-05    OSCILLATION LIMIT = 75.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 56.93    CRITERION= .2016
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3997
    HT FLOW CONVERGENCE VALUE= .1235    CRITERION= .1926    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 711
*** TIME = .749493E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9535E-05    OSCILLATION LIMIT = 75.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 57.01    CRITERION= .2009
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4009
    HT FLOW CONVERGENCE VALUE= .1234    CRITERION= .1918    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 712
*** TIME = .757382E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9586E-05    OSCILLATION LIMIT = 75.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 56.91    CRITERION= .2000
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4002
    HT FLOW CONVERGENCE VALUE= .1226    CRITERION= .1910    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 713
*** TIME = .765272E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9548E-05    OSCILLATION LIMIT = 75.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 56.99    CRITERION= .1993
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4015
    HT FLOW CONVERGENCE VALUE= .1220    CRITERION= .1902    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 714
*** TIME = .773161E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9598E-05    OSCILLATION LIMIT = 75.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 56.88    CRITERION= .1985
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4008
    HT FLOW CONVERGENCE VALUE= .1213    CRITERION= .1894    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 715
*** TIME = .781051E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9561E-05    OSCILLATION LIMIT = 75.43
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 56.96    CRITERION= .1978
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4021
    HT FLOW CONVERGENCE VALUE= .1213    CRITERION= .1886    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 716
*** TIME = .788940E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9610E-05    OSCILLATION LIMIT = 75.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 56.86    CRITERION= .1969
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4016
    HT FLOW CONVERGENCE VALUE= .1206    CRITERION= .1878    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 717
*** TIME = .796829E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9574E-05    OSCILLATION LIMIT = 75.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 56.94    CRITERION= .1962
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4028
    HT FLOW CONVERGENCE VALUE= .1203    CRITERION= .1870    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 718
*** TIME = .804719E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9622E-05 OSCILLATION LIMIT = 75.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.83 CRITERION= .1954
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4022
HT FLOW CONVERGENCE VALUE= .1195 CRITERION= .1862 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 719
*** TIME = .812608E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9587E-05 OSCILLATION LIMIT = 75.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.91 CRITERION= .1947
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4034
HT FLOW CONVERGENCE VALUE= .1191 CRITERION= .1854 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 720
*** TIME = .820498E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9634E-05 OSCILLATION LIMIT = 76.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.81 CRITERION= .1938
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4028
HT FLOW CONVERGENCE VALUE= .1185 CRITERION= .1846 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 721
*** TIME = .828387E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9600E-05 OSCILLATION LIMIT = 75.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.88 CRITERION= .1931
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4039
HT FLOW CONVERGENCE VALUE= .1183 CRITERION= .1837 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 722
*** TIME = .836276E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9646E-05 OSCILLATION LIMIT = 76.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.78 CRITERION= .1923
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4034
HT FLOW CONVERGENCE VALUE= .1176 CRITERION= .1830 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 723
*** TIME = .844166E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9613E-05 OSCILLATION LIMIT = 75.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.86 CRITERION= .1916
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4045
HT FLOW CONVERGENCE VALUE= .1174 CRITERION= .1821 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 724
*** TIME = .852055E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9658E-05 OSCILLATION LIMIT = 76.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.75 CRITERION= .1908
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4041
HT FLOW CONVERGENCE VALUE= .1167 CRITERION= .1814 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 725
*** TIME = .859945E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9626E-05 OSCILLATION LIMIT = 75.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.83 CRITERION= .1901

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4053
HT FLOW CONVERGENCE VALUE= .1165 CRITERION= .1805 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 726
*** TIME = .867834E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9671E-05 OSCILLATION LIMIT = 76.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.73 CRITERION= .1892
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4048
HT FLOW CONVERGENCE VALUE= .1159 CRITERION= .1798 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 727
*** TIME = .875723E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9639E-05 OSCILLATION LIMIT = 76.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.81 CRITERION= .1885
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4058
HT FLOW CONVERGENCE VALUE= .1158 CRITERION= .1789 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 728
*** TIME = .883613E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9682E-05 OSCILLATION LIMIT = 76.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.70 CRITERION= .1877
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4054
HT FLOW CONVERGENCE VALUE= .1146 CRITERION= .1782 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 729
*** TIME = .891502E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9652E-05 OSCILLATION LIMIT = 76.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.78 CRITERION= .1870
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4065
HT FLOW CONVERGENCE VALUE= .1121 CRITERION= .1773 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 730
*** TIME = .899392E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9696E-05 OSCILLATION LIMIT = 76.50
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.68 CRITERION= .1861
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4063
HT FLOW CONVERGENCE VALUE= .1110 CRITERION= .1766 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 731
*** TIME = .907281E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9668E-05 OSCILLATION LIMIT = 76.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.76 CRITERION= .1854
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4074
HT FLOW CONVERGENCE VALUE= .1108 CRITERION= .1757 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 732
*** TIME = .915170E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9710E-05 OSCILLATION LIMIT = 76.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.65 CRITERION= .1846
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4070
HT FLOW CONVERGENCE VALUE= .1092 CRITERION= .1750 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 733
*** TIME = .923060E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .9682E-05 OSCILLATION LIMIT = 76.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 56.73 CRITERION= .1839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4080
 HT FLOW CONVERGENCE VALUE= .1090 CRITERION= .1741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 734
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9723E-05 OSCILLATION LIMIT = 76.71
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.63 CRITERION= .1831
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4077
 HT FLOW CONVERGENCE VALUE= .1083 CRITERION= .1734 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 735
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9695E-05 OSCILLATION LIMIT = 76.49
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.70 CRITERION= .1824
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4087
 HT FLOW CONVERGENCE VALUE= .1081 CRITERION= .1725 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 736
 *** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .9735E-05 OSCILLATION LIMIT = 76.80

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:21:02 JUN 12, 1995 CP= 46666.050
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 65.34 CRITERION= .1844
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3611
 HT FLOW CONVERGENCE VALUE= .1063 CRITERION= .1719 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 737
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5892E-05 OSCILLATION LIMIT = 46.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.41 CRITERION= .1839
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3630
 HT FLOW CONVERGENCE VALUE= .1046 CRITERION= .1713 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 738
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5933E-05 OSCILLATION LIMIT = 46.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.30 CRITERION= .1833
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3631
 HT FLOW CONVERGENCE VALUE= .1026 CRITERION= .1707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 739
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5924E-05 OSCILLATION LIMIT = 46.73
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.38 CRITERION= .1828
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3634
 HT FLOW CONVERGENCE VALUE= .1010 CRITERION= .1700 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 740
 *** TIME = .978286E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .5942E-05 OSCILLATION LIMIT = 46.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.27 CRITERION= .1821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3635
HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .1695 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 741
*** TIME = .986175E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5933E-05 OSCILLATION LIMIT = 46.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.34 CRITERION= .1816
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3637
HT FLOW CONVERGENCE VALUE= .1001 CRITERION= .1688 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 742
*** TIME = .994064E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5952E-05 OSCILLATION LIMIT = 46.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.24 CRITERION= .1810
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3639
HT FLOW CONVERGENCE VALUE= .9977E-01 CRITERION= .1683 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 743
*** TIME = .100195E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5944E-05 OSCILLATION LIMIT = 46.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.31 CRITERION= .1805
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3641
HT FLOW CONVERGENCE VALUE= .9923E-01 CRITERION= .1676 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 744
*** TIME = .100984E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5963E-05 OSCILLATION LIMIT = 47.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.20 CRITERION= .1798
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3643
HT FLOW CONVERGENCE VALUE= .9824E-01 CRITERION= .1670 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 745
*** TIME = .101773E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5955E-05 OSCILLATION LIMIT = 46.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.28 CRITERION= .1793
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3645
HT FLOW CONVERGENCE VALUE= .9713E-01 CRITERION= .1664 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 746
*** TIME = .102562E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5973E-05 OSCILLATION LIMIT = 47.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.17 CRITERION= .1787
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3646
HT FLOW CONVERGENCE VALUE= .9682E-01 CRITERION= .1658 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 747
*** TIME = .103351E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5964E-05 OSCILLATION LIMIT = 47.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.24 CRITERION= .1781
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3649
HT FLOW CONVERGENCE VALUE= .9663E-01 CRITERION= .1651 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 748
*** TIME = .104140E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5982E-05 OSCILLATION LIMIT = 47.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.13 CRITERION= .1775
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3650
HT FLOW CONVERGENCE VALUE= .9535E-01 CRITERION= .1646 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 749
*** TIME = .104929E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5974E-05 OSCILLATION LIMIT = 47.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.21 CRITERION= .1770
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3653
HT FLOW CONVERGENCE VALUE= .9413E-01 CRITERION= .1639 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 750
*** TIME = .105718E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5993E-05 OSCILLATION LIMIT = 47.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.10 CRITERION= .1763
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3655
HT FLOW CONVERGENCE VALUE= .9318E-01 CRITERION= .1634 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 751
*** TIME = .106507E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5987E-05 OSCILLATION LIMIT = 47.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.17 CRITERION= .1758
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3658
HT FLOW CONVERGENCE VALUE= .9298E-01 CRITERION= .1627 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 752
*** TIME = .107296E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6005E-05 OSCILLATION LIMIT = 47.37
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.06 CRITERION= .1752
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3659
HT FLOW CONVERGENCE VALUE= .9261E-01 CRITERION= .1621 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 753
*** TIME = .108085E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5997E-05 OSCILLATION LIMIT = 47.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.14 CRITERION= .1747
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3662
HT FLOW CONVERGENCE VALUE= .9243E-01 CRITERION= .1614 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 754
*** TIME = .108874E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6015E-05 OSCILLATION LIMIT = 47.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.03 CRITERION= .1740
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3663
HT FLOW CONVERGENCE VALUE= .9205E-01 CRITERION= .1609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 755
*** TIME = .109663E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6007E-05 OSCILLATION LIMIT = 47.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.10 CRITERION= .1735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3665

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HT FLOW CONVERGENCE VALUE= .9160E-01 CRITERION= .1602 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 756
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6025E-05 OSCILLATION LIMIT = 47.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.00 CRITERION= .1729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3667
 HT FLOW CONVERGENCE VALUE= .9132E-01 CRITERION= .1597 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 757
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6017E-05 OSCILLATION LIMIT = 47.47
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.07 CRITERION= .1724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3669
 HT FLOW CONVERGENCE VALUE= .9125E-01 CRITERION= .1590 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 758
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6033E-05 OSCILLATION LIMIT = 47.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.96 CRITERION= .1717
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3670
 HT FLOW CONVERGENCE VALUE= .9086E-01 CRITERION= .1584 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 759
 *** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6026E-05 OSCILLATION LIMIT = 47.54
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.04 CRITERION= .1712
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3673
 HT FLOW CONVERGENCE VALUE= .9064E-01 CRITERION= .1578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 760
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6043E-05 OSCILLATION LIMIT = 47.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.93 CRITERION= .1706
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3675
 HT FLOW CONVERGENCE VALUE= .9024E-01 CRITERION= .1572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 761
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6036E-05 OSCILLATION LIMIT = 47.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 65.00 CRITERION= .1701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3677
 HT FLOW CONVERGENCE VALUE= .8987E-01 CRITERION= .1565 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 762
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6053E-05 OSCILLATION LIMIT = 47.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.89 CRITERION= .1694
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3679
 HT FLOW CONVERGENCE VALUE= .8964E-01 CRITERION= .1560 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 763
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6045E-05 OSCILLATION LIMIT = 47.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.97 CRITERION= .1689
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3681
HT FLOW CONVERGENCE VALUE= .8937E-01 CRITERION= .1553 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 764
*** TIME = .116763E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6061E-05 OSCILLATION LIMIT = 47.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.86 CRITERION= .1683
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3682
HT FLOW CONVERGENCE VALUE= .8880E-01 CRITERION= .1548 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 765
*** TIME = .117552E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6054E-05 OSCILLATION LIMIT = 47.76
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.93 CRITERION= .1678
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3685
HT FLOW CONVERGENCE VALUE= .8864E-01 CRITERION= .1541 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 766
*** TIME = .118341E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6071E-05 OSCILLATION LIMIT = 47.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.82 CRITERION= .1671
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3687
HT FLOW CONVERGENCE VALUE= .8789E-01 CRITERION= .1535 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 767
*** TIME = .119130E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6064E-05 OSCILLATION LIMIT = 47.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.90 CRITERION= .1666
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3689
HT FLOW CONVERGENCE VALUE= .8798E-01 CRITERION= .1528 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 768
*** TIME = .119919E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6080E-05 OSCILLATION LIMIT = 47.97
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.79 CRITERION= .1660
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3690
HT FLOW CONVERGENCE VALUE= .8781E-01 CRITERION= .1523 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 769
*** TIME = .120708E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6072E-05 OSCILLATION LIMIT = 47.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.87 CRITERION= .1655
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3692
HT FLOW CONVERGENCE VALUE= .8760E-01 CRITERION= .1516 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 770
*** TIME = .121497E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6088E-05 OSCILLATION LIMIT = 48.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.76 CRITERION= .1648
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694
HT FLOW CONVERGENCE VALUE= .8720E-01 CRITERION= .1511 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 771
*** TIME = .122286E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6082E-05 OSCILLATION LIMIT = 47.98

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.83 CRITERION= .1644
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3696
HT FLOW CONVERGENCE VALUE= .8656E-01 CRITERION= .1504 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 772
*** TIME = .123075E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6098E-05 OSCILLATION LIMIT = 48.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.72 CRITERION= .1637
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3698
HT FLOW CONVERGENCE VALUE= .8520E-01 CRITERION= .1498 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 773
*** TIME = .123864E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6092E-05 OSCILLATION LIMIT = 48.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.80 CRITERION= .1632
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3700
HT FLOW CONVERGENCE VALUE= .8474E-01 CRITERION= .1492 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 774
*** TIME = .124653E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6106E-05 OSCILLATION LIMIT = 48.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.69 CRITERION= .1626
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3702
HT FLOW CONVERGENCE VALUE= .8435E-01 CRITERION= .1486 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 775
*** TIME = .125441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6100E-05 OSCILLATION LIMIT = 48.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 64.76 CRITERION= .1621
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3704
HT FLOW CONVERGENCE VALUE= .8413E-01 CRITERION= .1479 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 776
*** TIME = .126230E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6115E-05 OSCILLATION LIMIT = 48.25

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 19:06:50 JUN 12, 1995 CP= 49252.870
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 57.06 CRITERION= .1585
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3098
HT FLOW CONVERGENCE VALUE= .7184E-01 CRITERION= .1475 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 777
*** TIME = .127019E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .5405E-05 OSCILLATION LIMIT = 42.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.14 CRITERION= .1581
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3127
HT FLOW CONVERGENCE VALUE= .7140E-01 CRITERION= .1469 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 778

*** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5517E-05 OSCILLATION LIMIT = 43.53
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.03 CRITERION= .1576
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3137
 HT FLOW CONVERGENCE VALUE= .7122E-01 CRITERION= .1465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 779
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5544E-05 OSCILLATION LIMIT = 43.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.11 CRITERION= .1572
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3128
 HT FLOW CONVERGENCE VALUE= .7097E-01 CRITERION= .1459 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 780
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5521E-05 OSCILLATION LIMIT = 43.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.01 CRITERION= .1566
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3140
 HT FLOW CONVERGENCE VALUE= .7078E-01 CRITERION= .1455 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 781
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5552E-05 OSCILLATION LIMIT = 43.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.09 CRITERION= .1562
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3131
 HT FLOW CONVERGENCE VALUE= .7053E-01 CRITERION= .1449 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 782
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5529E-05 OSCILLATION LIMIT = 43.62
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.98 CRITERION= .1557
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3142
 HT FLOW CONVERGENCE VALUE= .7033E-01 CRITERION= .1445 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 783
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5559E-05 OSCILLATION LIMIT = 43.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.06 CRITERION= .1553
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3134
 HT FLOW CONVERGENCE VALUE= .7008E-01 CRITERION= .1439 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 784
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5538E-05 OSCILLATION LIMIT = 43.69
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.96 CRITERION= .1547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3145
 HT FLOW CONVERGENCE VALUE= .6987E-01 CRITERION= .1434 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 785
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .5567E-05 OSCILLATION LIMIT = 43.92
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 57.03 CRITERION= .1543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3137
 HT FLOW CONVERGENCE VALUE= .6963E-01 CRITERION= .1429 <<< CONVERGED

PARAMETER ASSY(91,0) = 5000.000 5500.000 6000.000 6500.000
7000.000 7500.000

PARAMETER ASSY(97,0) = 8000.000 8500.000 9000.000 9500.000
10000.00

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)

INPUT MATRIX= ASSY(1,0)

INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
FACTOR ON FIRST VECTOR PARAMETER = 1.0000
FACTOR ON SECOND VECTOR PARAMETER= 1.0000
FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN

FUEL(1) = COPY ASSY(1)

SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000

VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
SLOC= 1 274.0000
Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1
SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2
SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Define new material 15 for low thermal loading
outer barrier of 70/30 Copper Nickel (C71500)
Density: DENS (kg/m³)
Conductivity: KXX (W/m/K)
Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .000000E+00

Density (lb/in³ converted to kg/m³)

PROPERTY TABLE DENS MAT= 15 NUM. POINTS= 1
SLOC= 1 8940.640

Specific Heat (Btu/lb/F converted to J/kg/K)

PROPERTY TABLE C MAT= 15 NUM. POINTS= 1
SLOC= 1 376.7898

Conductivity (Btu/hr/ft/F converted to W/m/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
SLOC= 1 20.00000 100.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 4 ***
SLOC= 3 200.0000 300.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 5 400.0000 500.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 8 ***
SLOC= 7 600.0000 700.0000

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 2
SLOC= 1 29.42190 29.24883

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 4
SLOC= 3 34.09479 38.59461

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 6
SLOC= 5 43.09443 48.11346

PROPERTY TABLE KXX MAT= 15 NUM. POINTS= 8
SLOC= 7 53.13249 58.15152

Construct geometry for Disposal Container

Define center and axis keypoints for waste package
Also, create placeholder keypoints and lines
(K's 1,2,3,4,5,6,7,8)
(L's 1,2,3,4)

KEYPOINT 1 X,Y,Z= .000000E+00 .000000E+00 .000000E+00 IN CSYS= 0

KEYPOINT	2	X,Y,Z=	.000000E+00	.000000E+00	1.00000	IN CSYS= 0
KEYPOINT	3	X,Y,Z=	.000000E+00	.000000E+00	1.30000	IN CSYS= 0
KEYPOINT	4	X,Y,Z=	.000000E+00	.000000E+00	1.40000	IN CSYS= 0
KEYPOINT	5	X,Y,Z=	.000000E+00	.000000E+00	1.50000	IN CSYS= 0
KEYPOINT	6	X,Y,Z=	.000000E+00	.000000E+00	1.60000	IN CSYS= 0
KEYPOINT	7	X,Y,Z=	.000000E+00	.000000E+00	1.70000	IN CSYS= 0
KEYPOINT	8	X,Y,Z=	.000000E+00	.000000E+00	1.80000	IN CSYS= 0

LINE CONNECTS KEYPOINTS 3 4
 LINE NO.= 1 KP1= 3 TAN1= .0000 .0000 -1.0000
 KP2= 4 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 4 5
 LINE NO.= 2 KP1= 4 TAN1= .0000 .0000 -1.0000
 KP2= 5 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 5 6
 LINE NO.= 3 KP1= 5 TAN1= .0000 .0000 -1.0000
 KP2= 6 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 6 7
 LINE NO.= 4 KP1= 6 TAN1= .0000 .0000 -1.0000
 KP2= 7 TAN2= .0000 .0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT	9	X,Y,Z=	.000000E+00	-.764500	.000000E+00	IN CSYS= 0
KEYPOINT	10	X,Y,Z=	.764500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	11	X,Y,Z=	.000000E+00	.764500	.000000E+00	IN CSYS= 0
KEYPOINT	12	X,Y,Z=	.000000E+00	-.714500	.000000E+00	IN CSYS= 0
KEYPOINT	13	X,Y,Z=	.714500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	14	X,Y,Z=	.000000E+00	.714500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 10 13
 LINE NO.= 5 KP1= 10 TAN1= 1.0000 .0000 .0000
 KP2= 13 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .76450
 LINE NO.= 6 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .76450
 LINE NO.= 7 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 8 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 9 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT	15	X,Y,Z=	.000000E+00	.694500	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.116750	.684616	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.126750	.682836	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.360250	.593759	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.369750	.587890	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.587890	.369750	.000000E+00	IN CSYS= 0
KEYPOINT	21	X,Y,Z=	.593759	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.682836	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.684616	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.694500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.684616	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.682836	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.593759	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.587890	-.369750	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.369750	-.587890	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.360250	-.593759	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.126750	-.682836	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.116750	-.684616	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.000000E+00	-.694500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000
 KP2= 15 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS	16 AND	15	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	13	KP1=	16 TAN1=	.9858 -.1681 .0000
		KP2=	15 TAN2=	-1.0000 .0000 .0000
ARC BETWEEN KEYPOINTS	17 AND	16	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	14	KP1=	17 TAN1=	.9832 -.1825 .0000
		KP2=	16 TAN2=	-.9858 .1681 .0000
ARC BETWEEN KEYPOINTS	18 AND	17	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	15	KP1=	18 TAN1=	.8549 -.5187 .0000
		KP2=	17 TAN2=	-.9832 .1825 .0000
ARC BETWEEN KEYPOINTS	19 AND	18	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	16	KP1=	19 TAN1=	.8465 -.5324 .0000
		KP2=	18 TAN2=	-.8549 .5187 .0000
ARC BETWEEN KEYPOINTS	20 AND	19	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	17	KP1=	20 TAN1=	.5324 -.8465 .0000
		KP2=	19 TAN2=	-.8465 .5324 .0000
ARC BETWEEN KEYPOINTS	21 AND	20	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	18	KP1=	21 TAN1=	.5187 -.8549 .0000
		KP2=	20 TAN2=	-.5324 .8465 .0000
ARC BETWEEN KEYPOINTS	22 AND	21	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	19	KP1=	22 TAN1=	.1825 -.9832 .0000
		KP2=	21 TAN2=	-.5187 .8549 .0000
ARC BETWEEN KEYPOINTS	23 AND	22	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	20	KP1=	23 TAN1=	.1681 -.9858 .0000
		KP2=	22 TAN2=	-.1825 .9832 .0000
ARC BETWEEN KEYPOINTS	24 AND	23	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	21	KP1=	24 TAN1=	.0000 -1.0000 .0000
		KP2=	23 TAN2=	-.1681 .9858 .0000
ARC BETWEEN KEYPOINTS	25 AND	24	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	22	KP1=	25 TAN1=	-.1681 -.9858 .0000
		KP2=	24 TAN2=	.0000 1.0000 .0000
ARC BETWEEN KEYPOINTS	26 AND	25	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	23	KP1=	26 TAN1=	-.1825 -.9832 .0000
		KP2=	25 TAN2=	.1681 .9858 .0000
ARC BETWEEN KEYPOINTS	27 AND	26	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	24	KP1=	27 TAN1=	-.5187 -.8549 .0000
		KP2=	26 TAN2=	.1825 .9832 .0000
ARC BETWEEN KEYPOINTS	28 AND	27	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	25	KP1=	28 TAN1=	-.5324 -.8465 .0000
		KP2=	27 TAN2=	.5187 .8549 .0000
ARC BETWEEN KEYPOINTS	29 AND	28	ORIENTATION KEYPOINT=	1
RADIUS=	.69450			
LINE NO.=	26	KP1=	29 TAN1=	-.8465 -.5324 .0000
		KP2=	28 TAN2=	.5324 .8465 .0000

ARC BETWEEN KEYPOINTS 30 AND 29 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 27 KP1= 30 TAN1= -.8549 -.5187 .0000
 KP2= 29 TAN2= .8465 .5324 .0000

ARC BETWEEN KEYPOINTS 31 AND 30 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 28 KP1= 31 TAN1= -.9832 -.1825 .0000
 KP2= 30 TAN2= .8549 .5187 .0000

ARC BETWEEN KEYPOINTS 32 AND 31 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 29 KP1= 32 TAN1= -.9858 -.1681 .0000
 KP2= 31 TAN2= .9832 .1825 .0000

ARC BETWEEN KEYPOINTS 33 AND 32 ORIENTATION KEYPOINT= 1
 RADIUS= .69450
 LINE NO.= 30 KP1= 33 TAN1= -1.0000 .0000 .0000
 KP2= 32 TAN2= .9858 .1681 .0000

LINE CONNECTS KEYPOINTS 33 12
 LINE NO.= 31 KP1= 33 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 24 13
 LINE NO.= 32 KP1= 24 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= 1.0000 .0000 .0000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 12 TO 21 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 9 TO 9 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 9)

AREA NUMBER = 3

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 22 TO 31 STEP 1

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 8 TO 8 STEP 1

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 32 TO 32 STEP 1

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

DEFINE AREA BY LIST OF LINES
 LINE LIST = ALL SELECTED LINES
 (TRAVERSED IN SAME DIRECTION AS LINE 8)

AREA NUMBER = 4

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 32 STEP 1

32 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides

(K's 34,35,36,37)

(L's 33,34,35,36,37,38,39,40,41,42)

(A's 5,6,7,8,9,10)

top guide

KEYPOINT 34 X,Y,Z= .360250 .360250 .000000E+00 IN CSYS= 0

KEYPOINT 35 X,Y,Z= .369750 .369750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 19 35
LINE NO.= 33 KP1= 19 TAN1= .0000 1.0000 .0000
KP2= 35 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 35 20
LINE NO.= 34 KP1= 35 TAN1= -1.0000 .0000 .0000
KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 21 34
LINE NO.= 35 KP1= 21 TAN1= 1.0000 .0000 .0000
KP2= 34 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 18
LINE NO.= 36 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 18 TAN2= .0000 1.0000 .0000

bottom guide

KEYPOINT 36 X,Y,Z= .369750 -.369750 .000000E+00 IN CSYS= 0

KEYPOINT 37 X,Y,Z= .360250 -.360250 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 28 36
LINE NO.= 37 KP1= 28 TAN1= 1.0000 .0000 .0000
KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 36 29
LINE NO.= 38 KP1= 36 TAN1= .0000 1.0000 .0000
KP2= 29 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 37
LINE NO.= 39 KP1= 30 TAN1= .0000 -1.0000 .0000
KP2= 37 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 37 27
LINE NO.= 40 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 27 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 35
LINE NO.= 41 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 35 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 37 36
LINE NO.= 42 KP1= 37 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES

LINE LIST = 17 33 34

(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 37 38

(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 6
Guide steel

DEFINE AREA BY LIST OF LINES

LINE LIST = 16 33 41 36
(TRAVERSED IN SAME DIRECTION AS LINE 16)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES

LINE LIST = 18 35 41 34
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 37 42 40
(TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 39 42 38
(TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 10

Define thermal shunts

(K's 38,39,40,41,42,43,44,45,46,47,48,49,50)

(51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)

(L's 43,44,45,46,47,48,49)

(50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)

(67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)

(84,85,86,87,88,89,90)

(A's 11 - 27)

top horizontal thermal shunt

KEYPOINT	38	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.000000E+00	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.116750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.126750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	45	X,Y,Z=	.360250	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	46	X,Y,Z=	.593750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	47	X,Y,Z=	.593750	.126750	.000000E+00	IN CSYS= 0

bottom horizontal thermal shunt

KEYPOINT	48	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.000000E+00	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.116750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	52	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0

KEYPOINT 53 X,Y,Z= .126750 -.126750 .000000E+00 IN CSYS= 0
 KEYPOINT 54 X,Y,Z= .360250 -.116750 .000000E+00 IN CSYS= 0
 KEYPOINT 55 X,Y,Z= .360250 -.126750 .000000E+00 IN CSYS= 0
 KEYPOINT 56 X,Y,Z= .593750 -.116750 .000000E+00 IN CSYS= 0
 KEYPOINT 57 X,Y,Z= .593750 -.126750 .000000E+00 IN CSYS= 0
 right vertical thermal shunt
 KEYPOINT 58 X,Y,Z= .116750 .593750 .000000E+00 IN CSYS= 0
 KEYPOINT 59 X,Y,Z= .126750 .593750 .000000E+00 IN CSYS= 0
 KEYPOINT 60 X,Y,Z= .116750 .360250 .000000E+00 IN CSYS= 0
 KEYPOINT 61 X,Y,Z= .126750 .360250 .000000E+00 IN CSYS= 0
 KEYPOINT 62 X,Y,Z= .116750 -.360250 .000000E+00 IN CSYS= 0
 KEYPOINT 63 X,Y,Z= .126750 -.360250 .000000E+00 IN CSYS= 0
 KEYPOINT 64 X,Y,Z= .116750 -.593750 .000000E+00 IN CSYS= 0
 KEYPOINT 65 X,Y,Z= .126750 -.593750 .000000E+00 IN CSYS= 0
 Lines; shunt widths, top, bottom, then vertical: (43-60)

LINE CONNECTS KEYPOINTS 38 39
 LINE NO.= 43 KP1= 38 TAN1= .0000 -1.0000 .0000
 KP2= 39 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 40 41
 LINE NO.= 44 KP1= 40 TAN1= .0000 -1.0000 .0000
 KP2= 41 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 42 43
 LINE NO.= 45 KP1= 42 TAN1= .0000 -1.0000 .0000
 KP2= 43 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 44 45
 LINE NO.= 46 KP1= 44 TAN1= .0000 -1.0000 .0000
 KP2= 45 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 46 47
 LINE NO.= 47 KP1= 46 TAN1= .0000 -1.0000 .0000
 KP2= 47 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 48 49
 LINE NO.= 48 KP1= 48 TAN1= .0000 1.0000 .0000
 KP2= 49 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 50 51
 LINE NO.= 49 KP1= 50 TAN1= .0000 1.0000 .0000
 KP2= 51 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 52 53
 LINE NO.= 50 KP1= 52 TAN1= .0000 1.0000 .0000
 KP2= 53 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 54 55
 LINE NO.= 51 KP1= 54 TAN1= .0000 1.0000 .0000
 KP2= 55 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 56 57
 LINE NO.= 52 KP1= 56 TAN1= .0000 1.0000 .0000
 KP2= 57 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 58 59

LINE NO.=	53	KP1=	58	TAN1=	-1.0000	.0000	.0000
		KP2=	59	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 60 61							
LINE NO.=	54	KP1=	60	TAN1=	-1.0000	.0000	.0000
		KP2=	61	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 41 43							
LINE NO.=	55	KP1=	41	TAN1=	-1.0000	.0000	.0000
		KP2=	43	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 40 42							
LINE NO.=	56	KP1=	40	TAN1=	-1.0000	.0000	.0000
		KP2=	42	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 50 52							
LINE NO.=	57	KP1=	50	TAN1=	-1.0000	.0000	.0000
		KP2=	52	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 51 53							
LINE NO.=	58	KP1=	51	TAN1=	-1.0000	.0000	.0000
		KP2=	53	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 62 63							
LINE NO.=	59	KP1=	62	TAN1=	-1.0000	.0000	.0000
		KP2=	63	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 64 65							
LINE NO.=	60	KP1=	64	TAN1=	-1.0000	.0000	.0000
		KP2=	65	TAN2=	1.0000	.0000	.0000
Lines; shunt edges, top, bottom, then vertical: (61-90)							
LINE CONNECTS KEYPOINTS 39 41							
LINE NO.=	61	KP1=	39	TAN1=	-1.0000	.0000	.0000
		KP2=	41	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 40 38							
LINE NO.=	62	KP1=	40	TAN1=	1.0000	.0000	.0000
		KP2=	38	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 43 45							
LINE NO.=	63	KP1=	43	TAN1=	-1.0000	.0000	.0000
		KP2=	45	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 44 42							
LINE NO.=	64	KP1=	44	TAN1=	1.0000	.0000	.0000
		KP2=	42	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 45 47							
LINE NO.=	65	KP1=	45	TAN1=	-1.0000	.0000	.0000
		KP2=	47	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 46 44							
LINE NO.=	66	KP1=	46	TAN1=	1.0000	.0000	.0000
		KP2=	44	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 47 22							
LINE NO.=	67	KP1=	47	TAN1=	-1.0000	.0000	.0000
		KP2=	22	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 23 46							
LINE NO.=	68	KP1=	23	TAN1=	1.0000	.0000	.0000
		KP2=	46	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 48 50							
LINE NO.=	69	KP1=	48	TAN1=	-1.0000	.0000	.0000
		KP2=	50	TAN2=	1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS 51 49							
LINE NO.=	70	KP1=	51	TAN1=	1.0000	.0000	.0000

	KP2=	49	TAN2=	-1.0000	.0000	.0000
LINE CONNECTS KEYPOINTS		52	54			
LINE NO.=	71	KP1=	52	TAN1=	-1.0000	.0000
		KP2=	54	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS		55	53			
LINE NO.=	72	KP1=	55	TAN1=	1.0000	.0000
		KP2=	53	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS		54	56			
LINE NO.=	73	KP1=	54	TAN1=	-1.0000	.0000
		KP2=	56	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS		57	55			
LINE NO.=	74	KP1=	57	TAN1=	1.0000	.0000
		KP2=	55	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS		56	25			
LINE NO.=	75	KP1=	56	TAN1=	-1.0000	.0000
		KP2=	25	TAN2=	1.0000	.0000
LINE CONNECTS KEYPOINTS		26	57			
LINE NO.=	76	KP1=	26	TAN1=	1.0000	.0000
		KP2=	57	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS		58	16			
LINE NO.=	77	KP1=	58	TAN1=	.0000	-1.0000
		KP2=	16	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS		17	59			
LINE NO.=	78	KP1=	17	TAN1=	.0000	1.0000
		KP2=	59	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		60	58			
LINE NO.=	79	KP1=	60	TAN1=	.0000	-1.0000
		KP2=	58	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS		59	61			
LINE NO.=	80	KP1=	59	TAN1=	.0000	1.0000
		KP2=	61	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		41	60			
LINE NO.=	81	KP1=	41	TAN1=	.0000	-1.0000
		KP2=	60	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS		61	43			
LINE NO.=	82	KP1=	61	TAN1=	.0000	1.0000
		KP2=	43	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		50	40			
LINE NO.=	83	KP1=	50	TAN1=	.0000	-1.0000
		KP2=	40	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS		42	52			
LINE NO.=	84	KP1=	42	TAN1=	.0000	1.0000
		KP2=	52	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		62	51			
LINE NO.=	85	KP1=	62	TAN1=	.0000	-1.0000
		KP2=	51	TAN2=	.0000	1.0000
LINE CONNECTS KEYPOINTS		53	63			
LINE NO.=	86	KP1=	53	TAN1=	.0000	1.0000
		KP2=	63	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		64	62			
LINE NO.=	87	KP1=	64	TAN1=	.0000	-1.0000
		KP2=	62	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS 63 65
 LINE NO.= 88 KP1= 63 TAN1= .0000 1.0000 .0000
 KP2= 65 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 32 64
 LINE NO.= 89 KP1= 32 TAN1= .0000 -1.0000 .0000
 KP2= 64 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 65 31
 LINE NO.= 90 KP1= 65 TAN1= .0000 1.0000 .0000
 KP2= 31 TAN2= .0000 -1.0000 .0000
 define areas for thermal shunts

DEFINE AREA BY LIST OF LINES
 LINE LIST = 43 61 44 62
 (TRAVERSED IN SAME DIRECTION AS LINE 43)

AREA NUMBER = 11

DEFINE AREA BY LIST OF LINES
 LINE LIST = 44 55 45 56
 (TRAVERSED IN SAME DIRECTION AS LINE 44)

AREA NUMBER = 12

DEFINE AREA BY LIST OF LINES
 LINE LIST = 45 63 46 64
 (TRAVERSED IN SAME DIRECTION AS LINE 45)

AREA NUMBER = 13

DEFINE AREA BY LIST OF LINES
 LINE LIST = 46 65 47 66
 (TRAVERSED IN SAME DIRECTION AS LINE 46)

AREA NUMBER = 14

DEFINE AREA BY LIST OF LINES
 LINE LIST = 47 67 20 68
 (TRAVERSED IN SAME DIRECTION AS LINE 47)

AREA NUMBER = 15

DEFINE AREA BY LIST OF LINES
 LINE LIST = 48 69 49 70
 (TRAVERSED IN SAME DIRECTION AS LINE 48)

AREA NUMBER = 16

DEFINE AREA BY LIST OF LINES
 LINE LIST = 49 57 50 58
 (TRAVERSED IN SAME DIRECTION AS LINE 49)

AREA NUMBER = 17

DEFINE AREA BY LIST OF LINES
 LINE LIST = 50 71 51 72
 (TRAVERSED IN SAME DIRECTION AS LINE 50)

AREA NUMBER = 18

DEFINE AREA BY LIST OF LINES
 LINE LIST = 51 73 52 74
 (TRAVERSED IN SAME DIPECTION AS LINE 51)

AREA NUMBER = 19

DEFINE AREA BY LIST OF LINES
 LINE LIST = 52 75 23 76
 (TRAVERSED IN SAME DIRECTION AS LINE 52)

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AREA NUMBER =      20

DEFINE AREA BY LIST OF LINES
  LINE LIST =      14      77      53      78
  (TRAVERSED IN SAME DIRECTION AS LINE      14)

AREA NUMBER =      21

DEFINE AREA BY LIST OF LINES
  LINE LIST =      53      79      54      80
  (TRAVERSED IN SAME DIRECTION AS LINE      53)

AREA NUMBER =      22

DEFINE AREA BY LIST OF LINES
  LINE LIST =      54      81      55      82
  (TRAVERSED IN SAME DIRECTION AS LINE      54)

AREA NUMBER =      23

DEFINE AREA BY LIST OF LINES
  LINE LIST =      56      83      57      84
  (TRAVERSED IN SAME DIRECTION AS LINE      56)

AREA NUMBER =      24

DEFINE AREA BY LIST OF LINES
  LINE LIST =      58      85      59      86
  (TRAVERSED IN SAME DIRECTION AS LINE      58)

AREA NUMBER =      25

DEFINE AREA BY LIST OF LINES
  LINE LIST =      59      87      60      88
  (TRAVERSED IN SAME DIRECTION AS LINE      59)

AREA NUMBER =      26

DEFINE AREA BY LIST OF LINES
  LINE LIST =      60      89      29      90
  (TRAVERSED IN SAME DIRECTION AS LINE      60)

AREA NUMBER =      27
*****
  Define shell gaps at the exterior of the tube array
  (K's 66 - 67)
  (L's 91 - 99)
  (A's 28 - 34)

KEYPOINT    66   X,Y,Z=   .000000E+00   .593750   .000000E+00   IN CSYS=  0
KEYPOINT    67   X,Y,Z=   .000000E+00  -.593750   .000000E+00   IN CSYS=  0

LINE CONNECTS KEYPOINTS      15      66
LINE NO.=   91  KP1=      15  TAN1=   .0000   1.0000   .0000
              KP2=      66  TAN2=   .0000  -1.0000   .0000

LINE CONNECTS KEYPOINTS      66      58
LINE NO.=   92  KP1=      66  TAN1=  -1.0000   .0000   .0000
              KP2=      58  TAN2=   1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      59      18
LINE NO.=   93  KP1=      59  TAN1=  -1.0000   .0000   .0000
              KP2=      18  TAN2=   1.0000   .0000   .0000

LINE CONNECTS KEYPOINTS      21      47
LINE NO.=   94  KP1=      21  TAN1=   .0000   1.0000   .0000

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	KP2=	47	TAN2=	.0000	-1.0000	.0000
LINE CONNECTS KEYPOINTS 46 56						
LINE NO.=	95	KP1=	46	TAN1=	.0000	1.0000
		KP2=	56	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 57 27						
LINE NO.=	96	KP1=	57	TAN1=	.0000	1.0000
		KP2=	27	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS 30 65						
LINE NO.=	97	KP1=	30	TAN1=	1.0000	.0000
		KP2=	65	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 64 67						
LINE NO.=	98	KP1=	64	TAN1=	1.0000	.0000
		KP2=	67	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS 67 33						
LINE NO.=	99	KP1=	67	TAN1=	.0000	1.0000
		KP2=	33	TAN2=	.0000	-1.0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 13 91 92 77
 (TRAVERSED IN SAME DIRECTION AS LINE 13)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
 LINE LIST = 15 78 93
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
 LINE LIST = 19 94 67
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES
 LINE LIST = 21 68 95 75 22
 (TRAVERSED IN SAME DIRECTION AS LINE 21)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES
 LINE LIST = 24 76 96
 (TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES
 LINE LIST = 28 97 90
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES
 LINE LIST = 30 89 98 99
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 34

Define center half-tube
 (K's 68-75)
 (L's 100-110)
 (A's 35-38)

KEYPOINT	68	X,Y,Z=	.000000E+00	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.111750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.000000E+00	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.111750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	72	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		70	68			
LINE NO.=	100	KP1=	70	TAN1=	.0000	-1.0000
		KP2=	68	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		70	74			
LINE NO.=	101	KP1=	70	TAN1=	.0000	1.0000
		KP2=	74	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		68	72			
LINE NO.=	102	KP1=	68	TAN1=	.0000	-1.0000
		KP2=	72	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		71	75			
LINE NO.=	103	KP1=	71	TAN1=	-.7071	.7071
		KP2=	75	TAN2=	.7071	-.7071

LINE CONNECTS KEYPOINTS		69	73			
LINE NO.=	104	KP1=	69	TAN1=	-.7071	-.7071
		KP2=	73	TAN2=	.7071	.7071

LINE CONNECTS KEYPOINTS		75	74			
LINE NO.=	105	KP1=	75	TAN1=	1.0000	.0000
		KP2=	74	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		71	70			
LINE NO.=	106	KP1=	71	TAN1=	1.0000	.0000
		KP2=	70	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		68	69			
LINE NO.=	107	KP1=	68	TAN1=	-1.0000	.0000
		KP2=	69	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		72	73			
LINE NO.=	108	KP1=	72	TAN1=	-1.0000	.0000
		KP2=	73	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		69	71			
LINE NO.=	109	KP1=	69	TAN1=	.0000	1.0000
		KP2=	71	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		73	75			
LINE NO.=	110	KP1=	73	TAN1=	.0000	1.0000
		KP2=	75	TAN2=	.0000	-1.0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 100 106 109 107
 (TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES
 LINE LIST = 101 105 103 106
 (TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 109 103 110 104
(TRAVERSED IN SAME DIRECTION AS LINE 109)

AREA NUMBER = 37

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 107 104 108
(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 38

Define center full-tube

(K's 76 - 83)

(L's 111 - 122)

(A's 39 - 43)

KEYPOINT	76	X,Y,Z=	.131750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.355250	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	78	X,Y,Z=	.131750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	79	X,Y,Z=	.355250	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	80	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	81	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	82	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	83	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	78	82
LINE NO.= 111	KP1= 78	TAN1= .7071 .7071 .0000
	KP2= 82	TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	76	80
LINE NO.= 112	KP1= 76	TAN1= .7071 -.7071 .0000
	KP2= 80	TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS	79	83
LINE NO.= 113	KP1= 79	TAN1= -.7071 .7071 .0000
	KP2= 83	TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	77	81
LINE NO.= 114	KP1= 77	TAN1= -.7071 -.7071 .0000
	KP2= 81	TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS	83	82
LINE NO.= 115	KP1= 83	TAN1= 1.0000 .0000 .0000
	KP2= 82	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	79	78
LINE NO.= 116	KP1= 79	TAN1= 1.0000 .0000 .0000
	KP2= 78	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	76	77
LINE NO.= 117	KP1= 76	TAN1= -1.0000 .0000 .0000
	KP2= 77	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	80	81
LINE NO.= 118	KP1= 80	TAN1= -1.0000 .0000 .0000
	KP2= 81	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	82	80
LINE NO.= 119	KP1= 82	TAN1= .0000 -1.0000 .0000
	KP2= 80	TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 78 76
 LINE NO.= 120 KP1= 78 TAN1= .0000 -1.0000 .0000
 KP2= 76 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 77 79
 LINE NO.= 121 KP1= 77 TAN1= .0000 1.0000 .0000
 KP2= 79 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 81 83
 LINE NO.= 122 KP1= 81 TAN1= .0000 1.0000 .0000
 KP2= 83 TAN2= .0000 -1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 120 116 121 117
 (TRAVERSED IN SAME DIRECTION AS LINE 120)

AREA NUMBER = 39

DEFINE AREA BY LIST OF LINES
 LINE LIST = 119 111 120 112
 (TRAVERSED IN SAME DIRECTION AS LINE 119)

AREA NUMBER = 40

DEFINE AREA BY LIST OF LINES
 LINE LIST = 111 115 113 116
 (TRAVERSED IN SAME DIRECTION AS LINE 111)

AREA NUMBER = 41

DEFINE AREA BY LIST OF LINES
 LINE LIST = 121 113 122 114
 (TRAVERSED IN SAME DIRECTION AS LINE 121)

AREA NUMBER = 42

DEFINE AREA BY LIST OF LINES
 LINE LIST = 112 117 114 118
 (TRAVERSED IN SAME DIRECTION AS LINE 112)

AREA NUMBER = 43

Set element shapes and sizes for tubes
 14x14 mesh in fuel with 2
 divisions per tube layer

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 115 TO 122 STEP 1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 109 TO 110 STEP 1

10 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 100 TO 100 STEP 1

11 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 14, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 105 TO 108 STEP 1
4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 101 TO 104 STEP 1
4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 111 TO 114 STEP 1
8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 122 STEP 1
122 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

Mesh areas
first fuel, then stainless tubes

MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 35 TO 35 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 120
MAXIMUM ELEMENT NUMBER = 98

GENERATE NODES AND ELEMENTS
IN AREAS 39 TO 39 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 345
MAXIMUM ELEMENT NUMBER = 294

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 36 TO 38 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 403
MAXIMUM ELEMENT NUMBER = 350

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 515
MAXIMUM ELEMENT NUMBER = 462

Copy tube mesh

center half tube above and below
(A's 44 - 47)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 693
 MAXIMUM ELEMENT NUMBER = 616
 (A's 48 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 871
 MAXIMUM ELEMENT NUMBER = 770
 (A's 52 - 55)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1049
 MAXIMUM ELEMENT NUMBER = 924
 (A's 56 - 59)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1227
 MAXIMUM ELEMENT NUMBER = 1078

center full tube side, above, and below
 (A's 60 - 64 = Side)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1564
 MAXIMUM ELEMENT NUMBER = 1386
 (A's 65 - 69 = up 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1901
 MAXIMUM ELEMENT NUMBER = 1694
 (A's 70 - 74 = up 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2238
 MAXIMUM ELEMENT NUMBER = 2002
 (A's 75 - 79 = down 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2575
 MAXIMUM ELEMENT NUMBER = 2310
 (A's 80 - 84 = down 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2912
 MAXIMUM ELEMENT NUMBER = 2618
 center full tube get corners
 (A's 85 - 89 = up corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3249
 MAXIMUM ELEMENT NUMBER = 2926
 (A's 90 - 94 = down corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3586
 MAXIMUM ELEMENT NUMBER = 3234

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 814	USED FOR NODES	1214
NODE 680	USED FOR NODES	992
NODE 822	USED FOR NODES	1216
NODE 682	USED FOR NODES	1000
NODE 821	USED FOR NODES	1217
NODE 683	USED FOR NODES	999
NODE 820	USED FOR NODES	1218
NODE 684	USED FOR NODES	998
NODE 819	USED FOR NODES	1219
NODE 685	USED FOR NODES	997
NODE 818	USED FOR NODES	1220
NODE 686	USED FOR NODES	996
NODE 687	USED FOR NODES	995
NODE 817	USED FOR NODES	1221
NODE 816	USED FOR NODES	1186
NODE 652	USED FOR NODES	994
NODE 1791	USED FOR NODES	2127
NODE 2464	USED FOR NODES	2802
NODE 1876	USED FOR NODES	2170
NODE 2507	USED FOR NODES	2887
NODE 1877	USED FOR NODES	2169
NODE 2506	USED FOR NODES	2888
NODE 1878	USED FOR NODES	2168
NODE 2505	USED FOR NODES	2889
NODE 1879	USED FOR NODES	2167
NODE 2504	USED FOR NODES	2890
NODE 1880	USED FOR NODES	2166
NODE 2503	USED FOR NODES	2891
NODE 1881	USED FOR NODES	2165
NODE 2502	USED FOR NODES	2892
NODE 1882	USED FOR NODES	2164
NODE 2501	USED FOR NODES	2893
NODE 1883	USED FOR NODES	2163
NODE 2500	USED FOR NODES	2894
NODE 1884	USED FOR NODES	2162
NODE 2499	USED FOR NODES	2895
NODE 1885	USED FOR NODES	2161
NODE 2498	USED FOR NODES	2896
NODE 1886	USED FOR NODES	2160
NODE 2497	USED FOR NODES	2897
NODE 1887	USED FOR NODES	2159
NODE 2496	USED FOR NODES	2898
NODE 1888	USED FOR NODES	2158
NODE 2495	USED FOR NODES	2899
NODE 2494	USED FOR NODES	2859 3475
NODE 2522	USED FOR NODES	3476
NODE 2535	USED FOR NODES	3477
NODE 2534	USED FOR NODES	3478

NODE 2533	USED FOR NODES	3479	
NODE 2532	USED FOR NODES	3480	
NODE 1820	USED FOR NODES	3138	
NODE 1848	USED FOR NODES	2157	3139
NODE 1861	USED FOR NODES	3140	
NODE 434	USED FOR NODES	1453	
NODE 462	USED FOR NODES	1454	
NODE 475	USED FOR NODES	1455	
NODE 2523	USED FOR NODES	3489	
NODE 2524	USED FOR NODES	3488	
NODE 2525	USED FOR NODES	3487	
NODE 2526	USED FOR NODES	3486	
NODE 2527	USED FOR NODES	3485	
NODE 2528	USED FOR NODES	3484	
NODE 2529	USED FOR NODES	3483	
NODE 2530	USED FOR NODES	3482	
NODE 2531	USED FOR NODES	3481	
NODE 474	USED FOR NODES	1456	
NODE 473	USED FOR NODES	1457	
NODE 472	USED FOR NODES	1458	
NODE 471	USED FOR NODES	1459	
NODE 470	USED FOR NODES	1460	
NODE 469	USED FOR NODES	1461	
NODE 468	USED FOR NODES	1462	
NODE 467	USED FOR NODES	1463	
NODE 463	USED FOR NODES	1467	
NODE 466	USED FOR NODES	1464	
NODE 464	USED FOR NODES	1466	
NODE 465	USED FOR NODES	1465	
NODE 1860	USED FOR NODES	3141	
NODE 1859	USED FOR NODES	3142	
NODE 1858	USED FOR NODES	3143	
NODE 1857	USED FOR NODES	3144	
NODE 1856	USED FOR NODES	3145	
NODE 1855	USED FOR NODES	3146	
NODE 1854	USED FOR NODES	3147	
NODE 1853	USED FOR NODES	3148	
NODE 1852	USED FOR NODES	3149	
NODE 1851	USED FOR NODES	3150	
NODE 1850	USED FOR NODES	3151	
NODE 1849	USED FOR NODES	3152	

*** WARNING *** CP= 12.220 TIME= 04:15:42
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 12.530 TIME= 04:15:42
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.540 TIME= 04:15:42
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.550 TIME= 04:15:42
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 12.560 TIME= 04:15:42
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.

(2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

KEYPOINT	34 USED FOR KEYPOINT(S)	131	138	161
KEYPOINT	37 USED FOR KEYPOINT(S)	146	155	168
KEYPOINT	38 USED FOR KEYPOINT(S)	72		
KEYPOINT	39 USED FOR KEYPOINT(S)	88		
KEYPOINT	40 USED FOR KEYPOINT(S)	73		
KEYPOINT	41 USED FOR KEYPOINT(S)	89		
KEYPOINT	42 USED FOR KEYPOINT(S)	80		
KEYPOINT	43 USED FOR KEYPOINT(S)	128		
KEYPOINT	44 USED FOR KEYPOINT(S)	81	121	
KEYPOINT	45 USED FOR KEYPOINT(S)	130	160	
KEYPOINT	46 USED FOR KEYPOINT(S)	123		
KEYPOINT	47 USED FOR KEYPOINT(S)	162		
KEYPOINT	48 USED FOR KEYPOINT(S)	74		
KEYPOINT	49 USED FOR KEYPOINT(S)	99		
KEYPOINT	50 USED FOR KEYPOINT(S)	75		
KEYPOINT	51 USED FOR KEYPOINT(S)	98		
KEYPOINT	52 USED FOR KEYPOINT(S)	82		
KEYPOINT	53 USED FOR KEYPOINT(S)	145		
KEYPOINT	54 USED FOR KEYPOINT(S)	83	120	
KEYPOINT	55 USED FOR KEYPOINT(S)	147	169	
KEYPOINT	56 USED FOR KEYPOINT(S)	122		
KEYPOINT	57 USED FOR KEYPOINT(S)	171		
KEYPOINT	58 USED FOR KEYPOINT(S)	106		
KEYPOINT	59 USED FOR KEYPOINT(S)	137		
KEYPOINT	60 USED FOR KEYPOINT(S)	90	105	
KEYPOINT	61 USED FOR KEYPOINT(S)	129	136	
KEYPOINT	62 USED FOR KEYPOINT(S)	97	114	
KEYPOINT	63 USED FOR KEYPOINT(S)	144	153	
KEYPOINT	64 USED FOR KEYPOINT(S)	113		
KEYPOINT	65 USED FOR KEYPOINT(S)	152		
KEYPOINT	66 USED FOR KEYPOINT(S)	107		
KEYPOINT	67 USED FOR KEYPOINT(S)	112		
KEYPOINT	91 USED FOR KEYPOINT(S)	104		
KEYPOINT	96 USED FOR KEYPOINT(S)	115		
LINE	61 USED FOR LINE(S)	128		

*** WARNING *** CP= 12.780 TIME= 04:15:43
Due to merge, line 61 is now meshed.
LINE 62 USED FOR LINE(S) 108

*** WARNING *** CP= 12.780 TIME= 04:15:43
Due to merge, line 62 is now meshed.
LINE 63 USED FOR LINE(S) 186

*** WARNING *** CP= 12.780 TIME= 04:15:43
Due to merge, line 63 is now meshed.
LINE 64 USED FOR LINE(S) 118

*** WARNING *** CP= 12.790 TIME= 04:15:43
Due to merge, line 64 is now meshed.
LINE 65 USED FOR LINE(S) 234

*** WARNING *** CP= 12.790 TIME= 04:15:43
Due to merge, line 65 is now meshed.
LINE 66 USED FOR LINE(S) 178

*** WARNING *** CP= 12.790 TIME= 04:15:43
Due to merge, line 66 is now meshed.
LINE 69 USED FOR LINE(S) 105

*** WARNING *** CP= 12.800 TIME= 04:15:43
Due to merge, line 69 is now meshed.
LINE 70 USED FOR LINE(S) 144

*** WARNING *** CP= 12.800 TIME= 04:15:43
Due to merge, line 70 is now meshed.
LINE 71 USED FOR LINE(S) 115

*** WARNING *** Due to merge, line 71 is now meshed. LINE 72 USED FOR LINE(S) 214	CP= 12.800 TIME= 04:15:43
*** WARNING *** Due to merge, line 72 is now meshed. LINE 73 USED FOR LINE(S) 174	CP= 12.800 TIME= 04:15:43
*** WARNING *** Due to merge, line 73 is now meshed. LINE 74 USED FOR LINE(S) 250	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 74 is now meshed. LINE 79 USED FOR LINE(S) 152	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 79 is now meshed. LINE 80 USED FOR LINE(S) 195	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 80 is now meshed. LINE 81 USED FOR LINE(S) 130	CP= 12.810 TIME= 04:15:43
*** WARNING *** Due to merge, line 81 is now meshed. LINE 82 USED FOR LINE(S) 183	CP= 12.820 TIME= 04:15:43
*** WARNING *** Due to merge, line 82 is now meshed. LINE 83 USED FOR LINE(S) 110	CP= 12.820 TIME= 04:15:43
*** WARNING *** Due to merge, line 83 is now meshed. LINE 84 USED FOR LINE(S) 119	CP= 12.820 TIME= 04:15:43
*** WARNING *** Due to merge, line 84 is now meshed. LINE 85 USED FOR LINE(S) 141	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 85 is now meshed. LINE 86 USED FOR LINE(S) 207	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 86 is now meshed. LINE 87 USED FOR LINE(S) 163	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 87 is now meshed. LINE 88 USED FOR LINE(S) 219	CP= 12.830 TIME= 04:15:43
*** WARNING *** Due to merge, line 88 is now meshed. LINE 92 USED FOR LINE(S) 155	CP= 12.840 TIME= 04:15:43
*** WARNING *** Due to merge, line 92 is now meshed. LINE 95 USED FOR LINE(S) 176	CP= 12.840 TIME= 04:15:43
*** WARNING *** Due to merge, line 95 is now meshed. LINE 98 USED FOR LINE(S) 161	CP= 12.840 TIME= 04:15:43
*** WARNING *** Due to merge, line 98 is now meshed. LINE 122 USED FOR LINE(S) 171 LINE 133 USED FOR LINE(S) 150 LINE 139 USED FOR LINE(S) 166 LINE 188 USED FOR LINE(S) 231	CP= 12.850 TIME= 04:15:43

LINE 190 USED FOR LINE(S) 198
LINE 210 USED FOR LINE(S) 226
LINE 212 USED FOR LINE(S) 243

Create mesh in tube guides, thermal shunts
Set mesh size for gaps.....

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 41 TO 60 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 14 TO 20 STEP 2

24 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 23 TO 29 STEP 2

28 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 61 TO 62 STEP 1

2 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 69 TO 70 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 91 TO 92 STEP 1

6 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 98 TO 99 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 21 TO 22 STEP 1

10 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 77 TO 78 STEP 1

12 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 89 TO 90 STEP 1

14 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 67 TO 68 STEP 1

16 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 75 TO 76 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 13 STEP 1

19 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 30 TO 30 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

*** WARNING *** CP= 12.990 TIME= 04:15:43
Some lines in the currently selected set were meshed and could not be altered.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 63 TO 66 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 71 TO 74 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 88 STEP 1

18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 40 STEP 1

26 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 93 TO 97 STEP 1

31 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 15 TO 19 STEP 2

34 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 24 TO 28 STEP 2

37 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 14, SPACING RATIO = 1.000

*** WARNING *** CP= 13.040 TIME= 04:15:43
Some lines in the currently selected set were meshed and could not be altered.

MESH CORNER GUIDES

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 7 TO 10 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 3758
MAXIMUM ELEMENT NUMBER = 3346
MESH THERMAL SHUNTS

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 27 IN STEPS OF 1

*** WARNING *** CP= 13.600 TIME= 04:15:43
Meshing of area 13 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.600 TIME= 04:15:43
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3365 3378 3379 3392

*** WARNING *** CP= 13.650 TIME= 04:15:43
Meshing of area 14 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.650 TIME= 04:15:43
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3393 3406 3407 3420

*** WARNING *** CP= 13.790 TIME= 04:15:44
Meshing of area 18 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.790 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3453 3454 3479 3480

*** WARNING *** CP= 13.840 TIME= 04:15:44
Meshing of area 19 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.840 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3481 3482 3507 3508

*** WARNING *** CP= 13.970 TIME= 04:15:44
Meshing of area 22 produced 4 poorly shaped elements.

*** NOTE *** CP= 13.970 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3537 3550 3551 3564

*** WARNING *** CP= 14.020 TIME= 04:15:44
Meshing of area 23 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.020 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3565 3578 3579 3592

*** WARNING *** CP= 14.070 TIME= 04:15:44
Meshing of area 24 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.070 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3593 3606 3607 3620

*** WARNING *** CP= 14.120 TIME= 04:15:44
Meshing of area 25 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.120 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3621 3634 3635 3648

*** WARNING *** CP= 14.170 TIME= 04:15:44
Meshing of area 26 produced 4 poorly shaped elements.

*** NOTE *** CP= 14.170 TIME= 04:15:44
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3649 3662 3663 3676

NUMBER OF AREAS MESHED = 17
MAXIMUM NODE NUMBER = 3991
MAXIMUM ELEMENT NUMBER = 3690

Create mesh in UCF inner shell
(L's 105,108)

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 21 STEP 1

9 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 105 KP1= 15 KP2= 24

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 30 STEP 1

9 LINES (OF 219 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 108 KP1= 24 KP2= 33

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 31 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 3 TO 4 IN STEPS OF 1

*** WARNING *** CP= 15.170 TIME= 04:15:45
Meshing of area 3 produced 62 poorly shaped elements.

*** NOTE *** CP= 15.170 TIME= 04:15:45
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3718	3719	3720	3721	3722	3723	3724	3725	3726	3727
3728	3729	3730	3731	3732	3733	3734	3735	3738	3763
3764	3765	3766	3767	3768	3769	3770	3771	3772	3773
3774	3799	3800	3801	3802	3803	3804	3805	3806	3807
3808	3809	3810	3837	3838	3839	3840	3841	3842	3843
3844	3845	3846	3847	3848	3849	3850	3851	3852	3853
3854	3855								

*** WARNING *** CP= 16.050 TIME= 04:15:46
Meshing of area 4 produced 62 poorly shaped elements.

*** NOTE *** CP= 16.050 TIME= 04:15:46
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3910	3911	3912	3913	3914	3915	3916	3917	3918	3919
3920	3921	3922	3923	3924	3925	3926	3927	3930	3955
3956	3957	3958	3959	3960	3961	3962	3963	3964	3965
3966	3991	3992	3993	3994	3995	3996	3997	3998	3999
4000	4001	4002	4029	4030	4031	4032	4033	4034	4035
4036	4037	4038	4039	4040	4041	4042	4043	4044	4045
4046	4047								

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4483
MAXIMUM ELEMENT NUMBER = 4074

Delete concatenated lines
(L's freed up 105,108)
LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 64, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 15

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 1 TO 2 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4870
MAXIMUM ELEMENT NUMBER = 4458

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2190 USED FOR NODES 3598
NODE 2185 USED FOR NODES 3588
NODE 2871 USED FOR NODES 3734
NODE 2186 USED FOR NODES 3602
NODE 2188 USED FOR NODES 3600
NODE 2187 USED FOR NODES 3601
NODE 2189 USED FOR NODES 3599
NODE 2191 USED FOR NODES 3597
NODE 2831 USED FOR NODES 3717
NODE 2192 USED FOR NODES 3596
NODE 2193 USED FOR NODES 3595
NODE 2194 USED FOR NODES 3594
NODE 2198 USED FOR NODES 3590
NODE 2196 USED FOR NODES 3592
NODE 2197 USED FOR NODES 3591
NODE 2195 USED FOR NODES 3593
NODE 2860 USED FOR NODES 3745
NODE 2862 USED FOR NODES 3743
NODE 2863 USED FOR NODES 3742
NODE 2864 USED FOR NODES 3741
NODE 2865 USED FOR NODES 3740
NODE 2866 USED FOR NODES 3739
NODE 2867 USED FOR NODES 3738
NODE 2868 USED FOR NODES 3737
NODE 2861 USED FOR NODES 3744
NODE 2870 USED FOR NODES 3735
NODE 2872 USED FOR NODES 3733
NODE 2869 USED FOR NODES 3736
NODE 3224 USED FOR NODES 3659
NODE 3518 USED FOR NODES 3676
NODE 3225 USED FOR NODES 3658
NODE 3517 USED FOR NODES 3677
NODE 3226 USED FOR NODES 3657
NODE 3516 USED FOR NODES 3678
NODE 3227 USED FOR NODES 3656
NODE 3515 USED FOR NODES 3679
NODE 3228 USED FOR NODES 3655
NODE 3514 USED FOR NODES 3680
NODE 3229 USED FOR NODES 3654
NODE 3513 USED FOR NODES 3681
NODE 3230 USED FOR NODES 3653
NODE 3512 USED FOR NODES 3682
NODE 3231 USED FOR NODES 3652
NODE 3511 USED FOR NODES 3683

NODE 3232 USED FOR NODES 3651
 NODE 3510 USED FOR NODES 3684
 NODE 3233 USED FOR NODES 3650
 NODE 3509 USED FOR NODES 3685
 NODE 3234 USED FOR NODES 3649
 NODE 3508 USED FOR NODES 3686
 NODE 3235 USED FOR NODES 3648
 NODE 3507 USED FOR NODES 3687
 NODE 3236 USED FOR NODES 3647
 NODE 3506 USED FOR NODES 3688
 NODE 3505 USED FOR NODES 3674
 NODE 3196 USED FOR NODES 3631

*** WARNING *** CP= 20.190 TIME= 04:15:50
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 20.500 TIME= 04:15:50
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.500 TIME= 04:15:50
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.510 TIME= 04:15:50
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 20.510 TIME= 04:15:50
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
 IN AREAS 5 TO 6 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 5124
 MAXIMUM ELEMENT NUMBER = 4752

GENERATE NODES AND ELEMENTS
 IN AREAS 28 TO 34 IN STEPS OF 1

** AREA 29 MESHED WITH	55 QUADRILATERALS,	17 TRIANGLES **
** AREA 30 MESHED WITH	53 QUADRILATERALS,	17 TRIANGLES **
** AREA 31 MESHED WITH	110 QUADRILATERALS,	8 TRIANGLES **
** AREA 32 MESHED WITH	55 QUADRILATERALS,	17 TRIANGLES **
** AREA 33 MESHED WITH	53 QUADRILATERALS,	17 TRIANGLES **

NUMBER OF AREAS MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5252

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2213 USED FOR NODES 5167
 NODE 2844 USED FOR NODES 5451
 NODE 2214 USED FOR NODES 5168
 NODE 2843 USED FOR NODES 5450
 NODE 2215 USED FOR NODES 5169
 NODE 2842 USED FOR NODES 5449
 NODE 2216 USED FOR NODES 5170
 NODE 2841 USED FOR NODES 5448
 NODE 2217 USED FOR NODES 5171
 NODE 2840 USED FOR NODES 5447
 NODE 2218 USED FOR NODES 5172
 NODE 2839 USED FOR NODES 5446
 NODE 2219 USED FOR NODES 5173
 NODE 2838 USED FOR NODES 5445
 NODE 2220 USED FOR NODES 5174
 NODE 2837 USED FOR NODES 5444
 NODE 2221 USED FOR NODES 5175
 NODE 2836 USED FOR NODES 5443
 NODE 2835 USED FOR NODES 5442
 NODE 2222 USED FOR NODES 5176
 NODE 2223 USED FOR NODES 5177
 NODE 2834 USED FOR NODES 5441
 NODE 2224 USED FOR NODES 5178
 NODE 2833 USED FOR NODES 5440
 NODE 2225 USED FOR NODES 5179
 NODE 2832 USED FOR NODES 5439
 NODE 3205 USED FOR NODES 5235
 NODE 3197 USED FOR NODES 5227
 NODE 3199 USED FOR NODES 5229
 NODE 3200 USED FOR NODES 5230
 NODE 3539 USED FOR NODES 5384
 NODE 3542 USED FOR NODES 5387
 NODE 3201 USED FOR NODES 5231
 NODE 3540 USED FOR NODES 5385
 NODE 3202 USED FOR NODES 5232
 NODE 3203 USED FOR NODES 5233
 NODE 3537 USED FOR NODES 5382
 NODE 3204 USED FOR NODES 5234
 NODE 3209 USED FOR NODES 5239
 NODE 3534 USED FOR NODES 5379
 NODE 3545 USED FOR NODES 5390
 NODE 3207 USED FOR NODES 5237
 NODE 3541 USED FOR NODES 5386
 NODE 3208 USED FOR NODES 5238
 NODE 3544 USED FOR NODES 5389
 NODE 3536 USED FOR NODES 5381
 NODE 3538 USED FOR NODES 5383
 NODE 3546 USED FOR NODES 5391
 NODE 3198 USED FOR NODES 5228
 NODE 3206 USED FOR NODES 5236
 NODE 3535 USED FOR NODES 5380
 NODE 3543 USED FOR NODES 5388

*** WARNING *** CP= 25.880 TIME= 04:15:56
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 26.220 TIME= 04:15:56
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the

tolerance (2.335E-06).

*** WARNING *** CP= 26.220 TIME= 04:15:56
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 26.230 TIME= 04:15:56
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 26.230 TIME= 04:15:56
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 13 TO 21 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5308

GENERATE NODES AND ELEMENTS
 ON LINES 22 TO 30 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5364

GENERATE NODES AND ELEMENTS
 ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5392

GENERATE NODES AND ELEMENTS
 ON LINES 37 TO 38 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5420

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 92 TO 98 IN STEPS OF 1

NUMBER OF LINES MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5504

MATERIAL NUMBER SET TO 13

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 68 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5518

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 78 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5546

GENERATE NODES AND ELEMENTS
ON LINES 89 TO 90 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5560

***** ROUTINE COMPLETED ***** CP = 26.510

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

/SHOW SWITCH PLOTS TO FILE meshfull.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshfull.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4766 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

/SHOW SWITCH PLOTS TO FILE meshgap.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshgap.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

/SHOW SWITCH PLOTS TO FILE meshrad.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshrad.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:16:02 JUN 12, 1995 CP= 32.100
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

310 NODES (OF 5339 DEFINED) SELECTED FROM
308 SELECTED ELEMENTS BY NSLE COMMAND.

STEFAN-BOLTZMANN CONSTANT= .56700E-07

TWO DIMENSIONAL PLANE GEOMETRY (UNIT THICKNESS)

HIDDEN SURFACE (SLOW) METHOD
NUMBER OF ZONES= 800

WRITE RADIATION MATRIX TO FILE= spaces.sub

*** WARNING *** CP= 32.370 TIME= 04:16:03
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation losses.

NUMBER OF ELEMENTS= 308 NUMBER OF NODES= 310

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5338 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 47.000

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:16:18 JUN 12, 1995 CP= 47.000
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE SET TO 18

SUPERELEMENT 5561 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 5561

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 5561
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

29 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 47.060 TIME= 04:16:18
Nodes cannot be cleared from line 13 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.060 TIME= 04:16:18
Nodes cannot be cleared from line 15 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.070 TIME= 04:16:18
Nodes cannot be cleared from line 17 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.070 TIME= 04:16:18
Nodes cannot be cleared from line 19 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.080 TIME= 04:16:18
Nodes cannot be cleared from line 21 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.080 TIME= 04:16:18
Nodes cannot be cleared from line 22 because area 31 is meshed. Only

elements are deleted.

*** NOTE *** CP= 47.090 TIME= 04:16:18
Nodes cannot be cleared from line 24 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.090 TIME= 04:16:18
Nodes cannot be cleared from line 26 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.100 TIME= 04:16:18
Nodes cannot be cleared from line 28 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.100 TIME= 04:16:18
Nodes cannot be cleared from line 30 because area 34 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.110 TIME= 04:16:18
Nodes cannot be cleared from line 33 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.110 TIME= 04:16:18
Nodes cannot be cleared from line 34 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.120 TIME= 04:16:18
Nodes cannot be cleared from line 37 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.120 TIME= 04:16:18
Nodes cannot be cleared from line 38 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.130 TIME= 04:16:18
Nodes cannot be cleared from line 67 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.130 TIME= 04:16:18
Nodes cannot be cleared from line 68 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.140 TIME= 04:16:18
Nodes cannot be cleared from line 75 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.140 TIME= 04:16:18
Nodes cannot be cleared from line 76 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.140 TIME= 04:16:18
Nodes cannot be cleared from line 77 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.150 TIME= 04:16:18
Nodes cannot be cleared from line 78 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.150 TIME= 04:16:18
Nodes cannot be cleared from line 89 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.160 TIME= 04:16:18
Nodes cannot be cleared from line 90 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.160 TIME= 04:16:18
Nodes cannot be cleared from line 92 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.160 TIME= 04:16:18
Nodes cannot be cleared from line 93 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.170 TIME= 04:16:18
Nodes cannot be cleared from line 94 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.170 TIME= 04:16:18
Nodes cannot be cleared from line 95 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.180 TIME= 04:16:18
Nodes cannot be cleared from line 96 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.190 TIME= 04:16:18
Nodes cannot be cleared from line 97 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 47.190 TIME= 04:16:18
Nodes cannot be cleared from line 98 because area 34 is meshed. Only
elements are deleted.

CLEARED 29 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 47.200

Set solution parameters and apply B.C.'s

Solve steady-state for initial conditions
with WP surface equal to drift ambient
temperature from repository model.

***** ANSYS SOLUTION ROUTINE *****

PERFORM A TRANSIENT ANALYSIS
THIS WILL BE A NEW ANALYSIS

USE THE DEFAULT NEWTON-RAPHSON OPTION FOR ALL DOFS
AND USE THE DEFAULT ADAPTIVE DESCENT OPTION

*** NOTE *** CP= 47.210 TIME= 04:16:18
Damping (if present) may be ignored only in reduced transient analyses.

PERFORM A FULL TRANSIENT ANALYSIS

TEMPERATURE OFFSET FROM ABSOLUTE ZERO= 273.150

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)

RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 5538 BY 1
REAL= 26.1414001 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .10000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

*** NOTE *** CP= 48.630 TIME= 04:16:20
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:16:20 JUN 12, 1995 CP= 48.630
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY.3-D
DEGREES OF FREEDOM.TEMP
ANALYSIS TYPETRANSIENT
SOLUTION METHOD.FULL

OFFSET TEMPERATURE FROM SOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTION PROGRAM CHOSEN

*** NOTE *** CP= 49.680 TIME= 04:16:21
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 50.180 TIME= 04:16:21
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER. 1
 TIME AT END OF THE LOAD STEP.10000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGED YES (EXIT)
 CONVERGENCE CONTROLS. USE DEFAULTS
 PRINT OUTPUT CONTROLS NO PRINTOUT
 DATABASE OUTPUT CONTROLS. ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 4108.7

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .33488	IXX = 641.0	IXX = 641.0
YC = .13217E-10	IYY = 641.0	IYY = 180.3
ZC = .00000E+00	IZZ = 1282.	IZZ = 821.2
	IXY = -.1213E-07	IXY = .6051E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE	MASS
1	4108.66

Range of element maximum matrix coefficients in global coordinates
 Maximum= 2640.26464 at element 3393.
 Minimum= 1.261859514E-09 at element 5561.

*** WARNING *** CP= 70.420 TIME= 04:16:43
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
------	--------	-------	----------	--------

1	5252	PLANE55	13.230	.003
18	1	MATRIX50	.120	.120

Time at end of element matrix formulation CP= 70.42.
 HT FLOW CONVERGENCE VALUE= 9672. CRITERION= 9.672

Estimated number of active DOF= 5210.

Maximum wavefront= 384.

Time at end of matrix triangularization CP= 96.14.

Equation solver maximum pivot= 5623.89496 at node 3957 TEMP.

Equation solver minimum pivot= 0.172720498 at node 5125 TEMP.

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 191.7
 HT FLOW CONVERGENCE VALUE= 73.53 CRITERION= .3497
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -31.33
 HT FLOW CONVERGENCE VALUE= 5.980 CRITERION= .3443
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.879
 HT FLOW CONVERGENCE VALUE= .3130 CRITERION= .3424 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	7.280	.001
18	1	MATRIX50	.160	.160

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	1.060	.000
18	1	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 3
 *** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS

ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 5210
 R.M.S. WAVEFRONT SIZE = 176.6

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096
 2.594 MB WRITTEN ON ELEMENT MATRIX FILE: ucf21h.emat
 2.359 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf21h.esav
 6.938 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf21h.tri
 .016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf21h.dsub
 2.859 MB WRITTEN ON RESULTS FILE: ucf21h.rth
 Solve steady-state for initial conditions
 with WP surface temperatures from repository
 steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 6 TO 6 STEP 1
 1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 7 TO 7 STEP 1
 2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
 RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
 2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
 RANGE 1 TO 5538 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 129

ALL SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.140 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.194 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.256 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .20000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** WARNING *** CP= 215.670 TIME= 04:19:14
This load step will be a static (steady-state) step.

*** NOTE *** CP= 216.160 TIME= 04:19:14
The step data was checked and warning messages were found.
Please review output or errors file (ucf21h.err) for these warning
messages.

*** NOTE *** CP= 216.160 TIME= 04:19:14
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:19:14 JUN 12, 1995 CP= 216.170
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

```

LOAD STEP NUMBER. . . . . 2
TIME AT END OF THE LOAD STEP. . . . . .20000E-05
AUTOMATIC TIME STEPPING . . . . . ON
  INITIAL NUMBER OF SUBSTEPS . . . . . 0
  MAXIMUM NUMBER OF SUBSTEPS . . . . . 0
  MINIMUM NUMBER OF SUBSTEPS . . . . . 1
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . . 25
STEP CHANGE BOUNDARY CONDITIONS . . . . . NO
TRANSIENT (INERTIA) EFFECTS . . . . . OFF
TERMINATE ANALYSIS IF NOT CONVERGED . . . . .YES (EXIT)
CONVERGENCE CONTROLS. . . . .USE DEFAULTS
PRINT OUTPUT CONTROLS . . . . .NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . .ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP
  
```

```

HT FLOW CONVERGENCE VALUE= .1592E+05 CRITERION= 15.92
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.25
HT FLOW CONVERGENCE VALUE= 36.86 CRITERION= .3392
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -9.290
HT FLOW CONVERGENCE VALUE= 2.642 CRITERION= .3370
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9073
HT FLOW CONVERGENCE VALUE= .1194 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 3
*** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 6
*** TIME = .200000E-05 TIME INC = .100000E-05
*****
  
```

Set time integration parameters

INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

USE AUTOMATIC TIME STEPPING THIS LOAD STEP
Time substep ranges from 10 sec to 1/4 loadstep

USE 10 SUBSTEPS INITIALLY THIS LOAD STEP FOR ALL DOFS
FOR AUTOMATIC TIME STEPPING:

```

USE 40 SUBSTEPS AS A MAXIMUM
USE 5 SUBSTEPS AS A MINIMUM
USE THE FINAL TIME STEP SIZE OF THE PREVIOUS LOAD STEP
AS THE STARTING TIME STEP SIZE.
Begin Transient
Apply loads and solve for 0 to .9 years
  
```

*DO LOOP ON PARAMETER= TM FROM 31.558 TO .28402E+08 BY .31558E+07

TIME= 31.558

```

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1
  
```

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

```

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1
  
```

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEH COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.140 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.194 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.256 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 343.910 TIME= 04:21:24
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:21:24 JUN 12, 1995 CP= 343.910
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 3
TIME AT END OF THE LOAD STEP. 31.558
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
CONVERGENCE CONTROLS.USE DEFAULTS
PRINT OUTPUT CONTROLSNO PRINTOUT
DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1194 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1784E-03
HT FLOW CONVERGENCE VALUE= .3751E-05 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 7
*** TIME = .788942 TIME INC = .788940
*** RESPONSE EIGENVALUE = .1850 OSCILLATION LIMIT = .1459
*** AUTO STEP TIME: NEXT TIME INC = .78894 UNCHANGED

HT FLOW CONVERGENCE VALUE= .2213 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2012E-03
HT FLOW CONVERGENCE VALUE= .5659E-05 CRITERION= .3363 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 8
*** TIME = 1.57788 TIME INC = .788940
*** RESPONSE EIGENVALUE = .9759E-01 OSCILLATION LIMIT = .7699E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .2120 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3201E-03
HT FLOW CONVERGENCE VALUE= .1158E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 9
*** TIME = 3.94470 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .2480E-01 OSCILLATION LIMIT = .5869E-01
*** AUTO TIME STEP: NEXT TIME INC = 6.3115 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .2003 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1865E-03
HT FLOW CONVERGENCE VALUE= .2589E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 10
*** TIME = 10.2562 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .4982E-02 OSCILLATION LIMIT = .3144E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1966 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9417E-04
HT FLOW CONVERGENCE VALUE= .2329E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 11
*** TIME = 16.5677 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .2185E-02 OSCILLATION LIMIT = .1379E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1924 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9398E-04
HT FLOW CONVERGENCE VALUE= .2252E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 12
*** TIME = 22.8793 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1794E-02 OSCILLATION LIMIT = .1132E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115 UNCHANGED

HT FLOW CONVERGENCE VALUE= .1912 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9379E-04
HT FLOW CONVERGENCE VALUE= .2212E-04 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 13
*** TIME = 29.1908 TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1605E-02 OSCILLATION LIMIT = .1013E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668 DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .1880 CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3512E-04
HT FLOW CONVERGENCE VALUE= .8218E-05 CRITERION= .3363 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 8 COMPLETED. CUM ITER = 14
*** TIME = 31.5576 TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .1526E-02 OSCILLATION LIMIT = .3612E-02

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 04:30:08 JUN 12, 1995 CP= 858.890
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 271.6 CRITERION= .4323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7924
 HT FLOW CONVERGENCE VALUE= .5089 CRITERION= .3345
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7899E-01
 HT FLOW CONVERGENCE VALUE= .2234E-01 CRITERION= .3346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 16
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1040E-04 OSCILLATION LIMIT = .8205
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 272.1 CRITERION= .4311
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7970
 HT FLOW CONVERGENCE VALUE= .6530 CRITERION= .3352
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1031
 HT FLOW CONVERGENCE VALUE= .2428E-01 CRITERION= .3353 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 18
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5027E-06 OSCILLATION LIMIT = .3966E-01
 *** AUTO TIME STEP: NEXT TIME INC = .2366E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 814.8 CRITERION= .8811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.377
 HT FLOW CONVERGENCE VALUE= 1.702 CRITERION= .3341
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3694
 HT FLOW CONVERGENCE VALUE= .9827E-01 CRITERION= .3342 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 20
 *** TIME = 394502. TIME INC = 236682.
 *** RESPONSE EIGENVALUE = .1175E-05 OSCILLATION LIMIT = .2781
 *** AUTO TIME STEP: NEXT TIME INC = .42553E+06 INCREASED (FACTOR = 1.7979)

HT FLOW CONVERGENCE VALUE= 1465. CRITERION= 1.503
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 2.913 CRITERION= .3341
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7155
 HT FLOW CONVERGENCE VALUE= .1961 CRITERION= .3341 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 22
 *** TIME = 820031. TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9366E-06 OSCILLATION LIMIT = .3985
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1464. CRITERION= 1.502
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.046 CRITERION= .3327
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7121
 HT FLOW CONVERGENCE VALUE= .2009 CRITERION= .3327 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 24
 *** TIME = .124556E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .1012E-05 OSCILLATION LIMIT = .4308
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1464. CRITERION= 1.501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.208 CRITERION= .3326
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7202
 HT FLOW CONVERGENCE VALUE= .2070 CRITERION= .3326 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 26
 *** TIME = .167109E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9279E-06 OSCILLATION LIMIT = .3948
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1463. CRITERION= 1.501
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.299 CRITERION= .3313

EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7198
 HT FLOW CONVERGENCE VALUE= .2094 CRITERION= .3313 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 28
 *** TIME = .209662E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .1020E-05 OSCILLATION LIMIT = .4339
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1463. CRITERION= 1.500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.255 CRITERION= .3312
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7238
 HT FLOW CONVERGENCE VALUE= .2137 CRITERION= .3312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 30
 *** TIME = .252215E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9296E-06 OSCILLATION LIMIT = .3956
 *** AUTO STEP TIME: NEXT TIME INC = .42553E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1463. CRITERION= 1.500
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.274
 HT FLOW CONVERGENCE VALUE= 3.025 CRITERION= .3298
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7159
 HT FLOW CONVERGENCE VALUE= .2070 CRITERION= .3298 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 9 COMPLETED. CUM ITER = 32
 *** TIME = .294768E+07 TIME INC = 425529.
 *** RESPONSE EIGENVALUE = .9889E-06 OSCILLATION LIMIT = .4208
 *** AUTO TIME STEP: NEXT TIME INC = .20811E+06 DECREASED (FACTOR = .4891)

HT FLOW CONVERGENCE VALUE= 715.5 CRITERION= .7877
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.090
 HT FLOW CONVERGENCE VALUE= 1.568 CRITERION= .3301
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3243
 HT FLOW CONVERGENCE VALUE= .9294E-01 CRITERION= .3301 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 10 COMPLETED. CUM ITER = 34
 *** TIME = .315579E+07 TIME INC = 208114.
 *** RESPONSE EIGENVALUE = .8294E-06 OSCILLATION LIMIT = .1726

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 04:46:08 JUN 12, 1995 CP= 1806.900
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 165.2 CRITERION= .3691
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7283
 HT FLOW CONVERGENCE VALUE= .4719 CRITERION= .3308
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1030
 HT FLOW CONVERGENCE VALUE= .2459E-01 CRITERION= .3308 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 36
 *** TIME = .336391E+07 TIME INC = 208114.
 *** RESPONSE EIGENVALUE = .2250E-05 OSCILLATION LIMIT = .4682
 *** AUTO STEP TIME: NEXT TIME INC = .20811E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 165.3 CRITERION= .3698
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4498
 HT FLOW CONVERGENCE VALUE= .3183 CRITERION= .3302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 37
 *** TIME = .357202E+07 TIME INC = 208114.
 *** RESPONSE EIGENVALUE = .7298E-05 OSCILLATION LIMIT = 1.519
 *** AUTO TIME STEP: NEXT TIME INC = 78894. DECREASED (FACTOR = .3791)

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HT FLOW CONVERGENCE VALUE= 62.73      CRITERION= .3361
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2280
HT FLOW CONVERGENCE VALUE= .1563      CRITERION= .3304    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 38
*** TIME = .365091E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2786E-05 OSCILLATION LIMIT = .2198
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.78      CRITERION= .3363
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1710
HT FLOW CONVERGENCE VALUE= .1160      CRITERION= .3303    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 39
*** TIME = .372981E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6960E-05 OSCILLATION LIMIT = .5491
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 62.69      CRITERION= .3362
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1705
HT FLOW CONVERGENCE VALUE= .1323      CRITERION= .3302    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 40
*** TIME = .380870E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .2595E-05 OSCILLATION LIMIT = .2048
*** AUTO TIME STEP: NEXT TIME INC = .19264E+06 INCREASED (FACTOR = 2.4418)

HT FLOW CONVERGENCE VALUE= 153.2      CRITERION= .3640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4172
HT FLOW CONVERGENCE VALUE= .3117      CRITERION= .3302    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 41
*** TIME = .400134E+07 TIME INC = 192643.
*** RESPONSE EIGENVALUE = .8600E-06 OSCILLATION LIMIT = .1657
*** AUTO TIME STEP: NEXT TIME INC = .57793E+06 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 459.4      CRITERION= .5657
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.250
HT FLOW CONVERGENCE VALUE= .9164      CRITERION= .3303
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2183
HT FLOW CONVERGENCE VALUE= .6991E-01 CRITERION= .3296    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 43
*** TIME = .457927E+07 TIME INC = 577928.
*** RESPONSE EIGENVALUE = .2131E-05 OSCILLATION LIMIT = 1.231
*** AUTO TIME STEP: NEXT TIME INC = .23469E+06 DECREASED (FACTOR = .4061)

HT FLOW CONVERGENCE VALUE= 187.0      CRITERION= .3789
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5073
HT FLOW CONVERGENCE VALUE= .3742      CRITERION= .3297
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8114E-01
HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .3294    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 45
*** TIME = .481396E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1686E-05 OSCILLATION LIMIT = .3957
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.0      CRITERION= .3788
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5072
HT FLOW CONVERGENCE VALUE= .3916      CRITERION= .3295
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8369E-01
HT FLOW CONVERGENCE VALUE= .2553E-01 CRITERION= .3292    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 47
*** TIME = .504864E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1344E-05 OSCILLATION LIMIT = .3154
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.3      CRITERION= .3788

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5077
HT FLOW CONVERGENCE VALUE= .3763 CRITERION= .3294
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8137E-01
HT FLOW CONVERGENCE VALUE= .2503E-01 CRITERION= .3291 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 10 COMPLETED. CUM ITER = 49
*** TIME = .528333E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1590E-05 OSCILLATION LIMIT = .3732
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.3 CRITERION= .3787
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5072
HT FLOW CONVERGENCE VALUE= .3883 CRITERION= .3291
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8276E-01
HT FLOW CONVERGENCE VALUE= .2562E-01 CRITERION= .3289 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 11 COMPLETED. CUM ITER = 51
*** TIME = .551802E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1453E-05 OSCILLATION LIMIT = .3411
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.6 CRITERION= .3786
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5078
HT FLOW CONVERGENCE VALUE= .3799 CRITERION= .3290
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8171E-01
HT FLOW CONVERGENCE VALUE= .2519E-01 CRITERION= .3288 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 12 COMPLETED. CUM ITER = 53
*** TIME = .575270E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1468E-05 OSCILLATION LIMIT = .3445
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.7 CRITERION= .3786
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5072
HT FLOW CONVERGENCE VALUE= .3905 CRITERION= .3288
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8218E-01
HT FLOW CONVERGENCE VALUE= .2549E-01 CRITERION= .3285 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 13 COMPLETED. CUM ITER = 55
*** TIME = .598739E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1496E-05 OSCILLATION LIMIT = .3510
*** AUTO STEP TIME: NEXT TIME INC = .23469E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 187.9 CRITERION= .3785
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5079
HT FLOW CONVERGENCE VALUE= .3877 CRITERION= .3287
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8181E-01
HT FLOW CONVERGENCE VALUE= .2580E-01 CRITERION= .3285 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 5 SUBSTEP 14 COMPLETED. CUM ITER = 57
*** TIME = .622208E+07 TIME INC = 234686.
*** RESPONSE EIGENVALUE = .1412E-05 OSCILLATION LIMIT = .3315
*** AUTO STEP TIME: NEXT TIME INC = 89475. DECREASED (FACTOR = .3813)

HT FLOW CONVERGENCE VALUE= 71.67 CRITERION= .3362
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1934
HT FLOW CONVERGENCE VALUE= .1522 CRITERION= .3284 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 15 COMPLETED. CUM ITER = 58
*** TIME = .631155E+07 TIME INC = 89474.9
*** RESPONSE EIGENVALUE = .7186E-06 OSCILLATION LIMIT = .6429E-01

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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:07:05 JUN 12, 1995 CP= 3046.180
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 46.34 CRITERION= .3316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1372
 HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .3286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 59
 *** TIME = .640103E+07 TIME INC = 89474.9
 *** RESPONSE EIGENVALUE = .1169E-05 OSCILLATION LIMIT = .1046
 *** AUTO STEP TIME: NEXT TIME INC = 89475. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.23 CRITERION= .3318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1250
 HT FLOW CONVERGENCE VALUE= .8826E-01 CRITERION= .3283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 60
 *** TIME = .649050E+07 TIME INC = 89474.9
 *** RESPONSE EIGENVALUE = .6253E-05 OSCILLATION LIMIT = .5595
 *** AUTO STEP TIME: NEXT TIME INC = 89475. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.36 CRITERION= .3316
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1265
 HT FLOW CONVERGENCE VALUE= .9203E-01 CRITERION= .3284 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 61
 *** TIME = .657998E+07 TIME INC = 89474.9
 *** RESPONSE EIGENVALUE = .2063E-05 OSCILLATION LIMIT = .1846
 *** AUTO TIME STEP: NEXT TIME INC = .2424E+06 INCREASED (FACTOR = 2.7092)

HT FLOW CONVERGENCE VALUE= 125.3 CRITERION= .3515
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3387
 HT FLOW CONVERGENCE VALUE= .2586 CRITERION= .3282 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 4 COMPLETED. CUM ITER = 62
 *** TIME = .682239E+07 TIME INC = 242410.
 *** RESPONSE EIGENVALUE = .1041E-05 OSCILLATION LIMIT = .2523
 *** AUTO TIME STEP: NEXT TIME INC = .48038E+06 INCREASED (FACTOR = 1.9817)

HT FLOW CONVERGENCE VALUE= 248.7 CRITERION= .4118
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6726
 HT FLOW CONVERGENCE VALUE= .5134 CRITERION= .3283
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1110
 HT FLOW CONVERGENCE VALUE= .3724E-01 CRITERION= .3279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 6 SUBSTEP 5 COMPLETED. CUM ITER = 64
 *** TIME = .730276E+07 TIME INC = 480378.
 *** RESPONSE EIGENVALUE = .2717E-05 OSCILLATION LIMIT = 1.305
 *** AUTO TIME STEP: NEXT TIME INC = .18404E+06 DECREASED (FACTOR = .3831)

HT FLOW CONVERGENCE VALUE= 95.32 CRITERION= .3415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2571
 HT FLOW CONVERGENCE VALUE= .2003 CRITERION= .3277 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 6 COMPLETED. CUM ITER = 65
 *** TIME = .748681E+07 TIME INC = 184042.
 *** RESPONSE EIGENVALUE = .9592E-06 OSCILLATION LIMIT = .1765
 *** AUTO STEP TIME: NEXT TIME INC = .18404E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.48 CRITERION= .3414
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2589
 HT FLOW CONVERGENCE VALUE= .2007 CRITERION= .3279 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 7 COMPLETED. CUM ITER = 66
 *** TIME = .767085E+07 TIME INC = 184042.
 *** RESPONSE EIGENVALUE = .9549E-06 OSCILLATION LIMIT = .1757
 *** AUTO TIME STEP: NEXT TIME INC = .52361E+06 INCREASED (FACTOR = 2.8451)

HT FLOW CONVERGENCE VALUE= 271.5 CRITERION= .4257
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7315
 HT FLOW CONVERGENCE VALUE= .5782 CRITERION= .3276


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EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1208
HT FLOW CONVERGENCE VALUE= .4144E-01 CRITERION= .3272 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 6 SUBSTEP 8 COMPLETED. CUM ITER = 68
*** TIME = .819446E+07 TIME INC = 523609.
*** RESPONSE EIGENVALUE = .3130E-05 OSCILLATION LIMIT = 1.639
*** AUTO TIME STEP: NEXT TIME INC = .17454E+06 DECREASED (FACTOR = .3333)

HT FLOW CONVERGENCE VALUE= 90.70 CRITERION= .3395
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2450
HT FLOW CONVERGENCE VALUE= .1997 CRITERION= .3274 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 9 COMPLETED. CUM ITER = 69
*** TIME = .836899E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .6101E-06 OSCILLATION LIMIT = .1065
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.61 CRITERION= .3397
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2438
HT FLOW CONVERGENCE VALUE= .1955 CRITERION= .3271 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 10 COMPLETED. CUM ITER = 70
*** TIME = .854353E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .1788E-05 OSCILLATION LIMIT = .3120
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.77 CRITERION= .3395
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2450
HT FLOW CONVERGENCE VALUE= .1887 CRITERION= .3272 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 11 COMPLETED. CUM ITER = 71
*** TIME = .871807E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .2144E-05 OSCILLATION LIMIT = .3742
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.68 CRITERION= .3395
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2438
HT FLOW CONVERGENCE VALUE= .1945 CRITERION= .3269 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 72
*** TIME = .889260E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .1898E-05 OSCILLATION LIMIT = .3313
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.84 CRITERION= .3393
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2450
HT FLOW CONVERGENCE VALUE= .1922 CRITERION= .3270 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 13 COMPLETED. CUM ITER = 73
*** TIME = .906714E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .1855E-05 OSCILLATION LIMIT = .3237
*** AUTO STEP TIME: NEXT TIME INC = .17454E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 90.76 CRITERION= .3393
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2438
HT FLOW CONVERGENCE VALUE= .1938 CRITERION= .3267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 14 COMPLETED. CUM ITER = 74
*** TIME = .924167E+07 TIME INC = 174536.
*** RESPONSE EIGENVALUE = .2015E-05 OSCILLATION LIMIT = .3517
*** AUTO TIME STEP: NEXT TIME INC = .11282E+06 DECREASED (FACTOR = .6464)

HT FLOW CONVERGENCE VALUE= 58.80 CRITERION= .3319
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1589
HT FLOW CONVERGENCE VALUE= .1223 CRITERION= .3267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 15 COMPLETED. CUM ITER = 75
*** TIME = .935449E+07 TIME INC = 112818.
*** RESPONSE EIGENVALUE = .2856E-05 OSCILLATION LIMIT = .3222
*** AUTO STEP TIME: NEXT TIME INC = .11282E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 58.69 CRITERION= .3320
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1576
 HT FLOW CONVERGENCE VALUE= .1243 CRITERION= .3265 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 16 COMPLETED. CUM ITER = 76
 *** TIME = .946731E+07 TIME INC = 112818.
 *** RESPONSE EIGENVALUE = .2710E-05 OSCILLATION LIMIT = .3058

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 05:25:29 JUN 12, 1995 CP= 4133.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 44.86 CRITERION= .3296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1219
 HT FLOW CONVERGENCE VALUE= .9765E-01 CRITERION= .3266 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 77
 *** TIME = .958013E+07 TIME INC = 112818.
 *** RESPONSE EIGENVALUE = .1576E-05 OSCILLATION LIMIT = .1778
 *** AUTO STEP TIME: NEXT TIME INC = .11282E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.73 CRITERION= .3297
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1202
 HT FLOW CONVERGENCE VALUE= .9301E-01 CRITERION= .3264 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 78
 *** TIME = .969295E+07 TIME INC = 112818.
 *** RESPONSE EIGENVALUE = .4221E-05 OSCILLATION LIMIT = .4762
 *** AUTO STEP TIME: NEXT TIME INC = .11282E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 44.87 CRITERION= .3294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1217
 HT FLOW CONVERGENCE VALUE= .9548E-01 CRITERION= .3265 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 3 COMPLETED. CUM ITER = 79
 *** TIME = .980577E+07 TIME INC = 112818.
 *** RESPONSE EIGENVALUE = .2081E-05 OSCILLATION LIMIT = .2347
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 INCREASED (FACTOR = 2.1300)

HT FLOW CONVERGENCE VALUE= 95.36 CRITERION= .3401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
 HT FLOW CONVERGENCE VALUE= .2061 CRITERION= .3262 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 4 COMPLETED. CUM ITER = 80
 *** TIME = .100461E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .1436E-05 OSCILLATION LIMIT = .3452
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.54 CRITERION= .3399
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2572
 HT FLOW CONVERGENCE VALUE= .2034 CRITERION= .3263 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 5 COMPLETED. CUM ITER = 81
 *** TIME = .102864E+08 TIME INC = 240301.
 *** RESPONSE EIGENVALUE = .1833E-05 OSCILLATION LIMIT = .4406
 *** AUTO STEP TIME: NEXT TIME INC = .24030E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 95.44 CRITERION= .3400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
 HT FLOW CONVERGENCE VALUE= .2002 CRITERION= .3260 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 6 COMPLETED. CUM ITER = 82
 *** TIME = .105267E+08 TIME INC = 240301.

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*** RESPONSE EIGENVALUE = .2608E-05  OSCILLATION LIMIT = .6266
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.61  CRITERION= .3397
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2571
  HT FLOW CONVERGENCE VALUE= .2018  CRITERION= .3260  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 7 COMPLETED.  CUM ITER = 83
*** TIME = .107670E+08  TIME INC = 240301.
*** RESPONSE EIGENVALUE = .1929E-05  OSCILLATION LIMIT = .4635
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.52  CRITERION= .3397
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
  HT FLOW CONVERGENCE VALUE= .2002  CRITERION= .3257  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 8 COMPLETED.  CUM ITER = 84
*** TIME = .110073E+08  TIME INC = 240301.
*** RESPONSE EIGENVALUE = .2433E-05  OSCILLATION LIMIT = .5846
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.69  CRITERION= .3395
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2570
  HT FLOW CONVERGENCE VALUE= .2012  CRITERION= .3258  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 9 COMPLETED.  CUM ITER = 85
*** TIME = .112476E+08  TIME INC = 240301.
*** RESPONSE EIGENVALUE = .2018E-05  OSCILLATION LIMIT = .4849
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.60  CRITERION= .3395
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
  HT FLOW CONVERGENCE VALUE= .2002  CRITERION= .3254  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 10 COMPLETED.  CUM ITER = 86
*** TIME = .114879E+08  TIME INC = 240301.
*** RESPONSE EIGENVALUE = .2352E-05  OSCILLATION LIMIT = .5652
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.77  CRITERION= .3392
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2570
  HT FLOW CONVERGENCE VALUE= .1996  CRITERION= .3255  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 11 COMPLETED.  CUM ITER = 87
*** TIME = .117282E+08  TIME INC = 240301.
*** RESPONSE EIGENVALUE = .2051E-05  OSCILLATION LIMIT = .4929
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.68  CRITERION= .3393
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
  HT FLOW CONVERGENCE VALUE= .1982  CRITERION= .3252  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 12 COMPLETED.  CUM ITER = 88
*** TIME = .119685E+08  TIME INC = 240301.
*** RESPONSE EIGENVALUE = .2311E-05  OSCILLATION LIMIT = .5554
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.85  CRITERION= .3390
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2570
  HT FLOW CONVERGENCE VALUE= .1972  CRITERION= .3252  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 13 COMPLETED.  CUM ITER = 89
*** TIME = .122088E+08  TIME INC = 240301.
*** RESPONSE EIGENVALUE = .2064E-05  OSCILLATION LIMIT = .4960
*** AUTO STEP TIME:  NEXT TIME INC = .24030E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 95.76  CRITERION= .3390
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2560
  HT FLOW CONVERGENCE VALUE= .1959  CRITERION= .3249  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 90
*** TIME = .124491E+08 TIME INC = 240301.
*** RESPONSE EIGENVALUE = .2285E-05 OSCILLATION LIMIT = .5491
*** AUTO TIME STEP: NEXT TIME INC = .17399E+06 DECREASED (FACTOR = .7241)

HT FLOW CONVERGENCE VALUE= 69.48 CRITERION= .3322
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1865
HT FLOW CONVERGENCE VALUE= .1397 CRITERION= .3249 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 91
*** TIME = .126231E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2873E-05 OSCILLATION LIMIT = .4999

***** ANSYS SOLVE COMMAND *****
1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 05:41:47 JUN 12, 1995 CP= 5095.070
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 56.00 CRITERION= .3297
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1126 CRITERION= .3247 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 92
*** TIME = .127971E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2954E-05 OSCILLATION LIMIT = .5139
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.14 CRITERION= .3295
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1110 CRITERION= .3247 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 93
*** TIME = .129711E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .3022E-05 OSCILLATION LIMIT = .5258
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.03 CRITERION= .3295
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1123 CRITERION= .3245 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 94
*** TIME = .131450E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2625E-05 OSCILLATION LIMIT = .4567
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.16 CRITERION= .3293
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1111 CRITERION= .3245 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 95
*** TIME = .133190E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2707E-05 OSCILLATION LIMIT = .4710
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.06 CRITERION= .3294
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1114 CRITERION= .3243 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 96
*** TIME = .134930E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2789E-05 OSCILLATION LIMIT = .4853
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.19 CRITERION= .3291
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508

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HT FLOW CONVERGENCE VALUE= .1112      CRITERION= .3244      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 97
*** TIME = .136670E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2605E-05 OSCILLATION LIMIT = .4532
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.09      CRITERION= .3292
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1111      CRITERION= .3241      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 98
*** TIME = .138410E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2818E-05 OSCILLATION LIMIT = .4902
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.22      CRITERION= .3289
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1105      CRITERION= .3242      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 99
*** TIME = .140150E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2573E-05 OSCILLATION LIMIT = .4477
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.11      CRITERION= .3290
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1101      CRITERION= .3239      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 100
*** TIME = .141890E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2810E-05 OSCILLATION LIMIT = .4889
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.24      CRITERION= .3288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1103      CRITERION= .3240      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 101
*** TIME = .143630E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2562E-05 OSCILLATION LIMIT = .4458
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.14      CRITERION= .3288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1100      CRITERION= .3237      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 102
*** TIME = .145370E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2794E-05 OSCILLATION LIMIT = .4862
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.27      CRITERION= .3286
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1508
HT FLOW CONVERGENCE VALUE= .1101      CRITERION= .3238      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 103
*** TIME = .147110E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2554E-05 OSCILLATION LIMIT = .4444
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.17      CRITERION= .3286
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
HT FLOW CONVERGENCE VALUE= .1096      CRITERION= .3235      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 104
*** TIME = .148849E+08 TIME INC = 173990.
*** RESPONSE EIGENVALUE = .2777E-05 OSCILLATION LIMIT = .4831
*** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 56.30 CRITERION= .3284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1507
 HT FLOW CONVERGENCE VALUE= .1099 CRITERION= .3236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 105
 *** TIME = .150589E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2549E-05 OSCILLATION LIMIT = .4434
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.20 CRITERION= .3284
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
 HT FLOW CONVERGENCE VALUE= .1095 CRITERION= .3234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 106
 *** TIME = .152329E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2760E-05 OSCILLATION LIMIT = .4802
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.32 CRITERION= .3282
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1507
 HT FLOW CONVERGENCE VALUE= .1099 CRITERION= .3234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 107
 *** TIME = .154069E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2542E-05 OSCILLATION LIMIT = .4423
 *** AUTO STEP TIME: NEXT TIME INC = .17399E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 56.22 CRITERION= .3283
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1498
 HT FLOW CONVERGENCE VALUE= .1096 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 108
 *** TIME = .155809E+08 TIME INC = 173990.
 *** RESPONSE EIGENVALUE = .2743E-05 OSCILLATION LIMIT = .4772
 *** AUTO TIME STEP: NEXT TIME INC = 98963. DECREASED (FACTOR = .5688)

HT FLOW CONVERGENCE VALUE= 32.09 CRITERION= .3248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8628E-01
 HT FLOW CONVERGENCE VALUE= .6068E-01 CRITERION= .3232 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 18 COMPLETED. CUM ITER = 109
 *** TIME = .156799E+08 TIME INC = 98962.6
 *** RESPONSE EIGENVALUE = .4416E-05 OSCILLATION LIMIT = .4370
 *** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 31.97 CRITERION= .3248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8522E-01
 HT FLOW CONVERGENCE VALUE= .6096E-01 CRITERION= .3230 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 19 COMPLETED. CUM ITER = 110
 *** TIME = .157788E+08 TIME INC = 98962.6
 *** RESPONSE EIGENVALUE = .3945E-05 OSCILLATION LIMIT = .3905

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:02:23 JUN 12, 1995 CP= 6311.410
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .3242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7324E-01
 HT FLOW CONVERGENCE VALUE= .5377E-01 CRITERION= .3231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 111
 *** TIME = .158778E+08 TIME INC = 98962.6
 *** RESPONSE EIGENVALUE = .2511E-05 OSCILLATION LIMIT = .2485

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.01 CRITERION= .3243
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5099E-01 CRITERION= .3229 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 112

*** TIME = .159768E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .4759E-05 OSCILLATION LIMIT = .4710

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.13 CRITERION= .3241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7313E-01
HT FLOW CONVERGENCE VALUE= .5259E-01 CRITERION= .3230 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 113

*** TIME = .160757E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3193E-05 OSCILLATION LIMIT = .3160

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .3242
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5159E-01 CRITERION= .3228 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 114

*** TIME = .161747E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3928E-05 OSCILLATION LIMIT = .3887

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.14 CRITERION= .3240
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7309E-01
HT FLOW CONVERGENCE VALUE= .5239E-01 CRITERION= .3229 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 115

*** TIME = .162736E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3363E-05 OSCILLATION LIMIT = .3328

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.02 CRITERION= .3241
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5165E-01 CRITERION= .3227 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 116

*** TIME = .163726E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3799E-05 OSCILLATION LIMIT = .3759

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.14 CRITERION= .3239
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7306E-01
HT FLOW CONVERGENCE VALUE= .5234E-01 CRITERION= .3228 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 117

*** TIME = .164716E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3356E-05 OSCILLATION LIMIT = .3321

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.03 CRITERION= .3240
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5162E-01 CRITERION= .3226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 118

*** TIME = .165705E+08 TIME INC = 98962.6

*** RESPONSE EIGENVALUE = .3733E-05 OSCILLATION LIMIT = .3694

*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.15 CRITERION= .3238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7303E-01
HT FLOW CONVERGENCE VALUE= .5230E-01 CRITERION= .3227 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 119

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*** TIME = .166695E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3337E-05    OSCILLATION LIMIT = .3302
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.04    CRITERION= .3239
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5160E-01 CRITERION= .3225    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 120
*** TIME = .167685E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3679E-05    OSCILLATION LIMIT = .3641
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.16    CRITERION= .3237
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7300E-01
    HT FLOW CONVERGENCE VALUE= .5229E-01 CRITERION= .3226    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 121
*** TIME = .168674E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3317E-05    OSCILLATION LIMIT = .3282
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.04    CRITERION= .3238
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5156E-01 CRITERION= .3224    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 122
*** TIME = .169664E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3632E-05    OSCILLATION LIMIT = .3595
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.16    CRITERION= .3236
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7297E-01
    HT FLOW CONVERGENCE VALUE= .5223E-01 CRITERION= .3225    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 123
*** TIME = .170653E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3295E-05    OSCILLATION LIMIT = .3261
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.05    CRITERION= .3236
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5153E-01 CRITERION= .3223    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 124
*** TIME = .171643E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3591E-05    OSCILLATION LIMIT = .3553
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.17    CRITERION= .3235
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7294E-01
    HT FLOW CONVERGENCE VALUE= .5217E-01 CRITERION= .3224    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 125
*** TIME = .172633E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3275E-05    OSCILLATION LIMIT = .3241
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.06    CRITERION= .3235
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
    HT FLOW CONVERGENCE VALUE= .5143E-01 CRITERION= .3222    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 126
*** TIME = .173622E+08    TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3552E-05    OSCILLATION LIMIT = .3516
*** AUTO STEP TIME: NEXT TIME INC = 98963.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.17    CRITERION= .3234
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7292E-01
    HT FLOW CONVERGENCE VALUE= .5208E-01 CRITERION= .3223    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 127
*** TIME = .174612E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3254E-05 OSCILLATION LIMIT = .3220
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.06 CRITERION= .3234
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5140E-01 CRITERION= .3221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 128
*** TIME = .175602E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3518E-05 OSCILLATION LIMIT = .3481
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .3233
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7289E-01
HT FLOW CONVERGENCE VALUE= .5204E-01 CRITERION= .3222 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 129
*** TIME = .176591E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3234E-05 OSCILLATION LIMIT = .3200
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.07 CRITERION= .3233
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5137E-01 CRITERION= .3220 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 130
*** TIME = .177581E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3485E-05 OSCILLATION LIMIT = .3449
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.18 CRITERION= .3232
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7287E-01
HT FLOW CONVERGENCE VALUE= .5197E-01 CRITERION= .3221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 131
*** TIME = .178570E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3214E-05 OSCILLATION LIMIT = .3180
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.08 CRITERION= .3232
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5128E-01 CRITERION= .3219 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 132
*** TIME = .179560E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3455E-05 OSCILLATION LIMIT = .3419
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.19 CRITERION= .3231
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7284E-01
HT FLOW CONVERGENCE VALUE= .5188E-01 CRITERION= .3220 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 23 COMPLETED. CUM ITER = 133
*** TIME = .180550E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3195E-05 OSCILLATION LIMIT = .3162
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.08 CRITERION= .3231
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5124E-01 CRITERION= .3218 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 24 COMPLETED. CUM ITER = 134
*** TIME = .181539E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3427E-05 OSCILLATION LIMIT = .3392
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.20 CRITERION= .3230

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7282E-01
HT FLOW CONVERGENCE VALUE= .5183E-01 CRITERION= .3219 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 25 COMPLETED. CUM ITER = 135
*** TIME = .182529E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3176E-05 OSCILLATION LIMIT = .3143
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.09 CRITERION= .3230
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5118E-01 CRITERION= .3217 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 26 COMPLETED. CUM ITER = 136
*** TIME = .183519E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3400E-05 OSCILLATION LIMIT = .3365
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.20 CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7280E-01
HT FLOW CONVERGENCE VALUE= .5176E-01 CRITERION= .3218 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 27 COMPLETED. CUM ITER = 137
*** TIME = .184508E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3158E-05 OSCILLATION LIMIT = .3125
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.10 CRITERION= .3229
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5110E-01 CRITERION= .3216 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 28 COMPLETED. CUM ITER = 138
*** TIME = .185498E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3375E-05 OSCILLATION LIMIT = .3340
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.21 CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7277E-01
HT FLOW CONVERGENCE VALUE= .5168E-01 CRITERION= .3217 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 29 COMPLETED. CUM ITER = 139
*** TIME = .186487E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3141E-05 OSCILLATION LIMIT = .3108
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.10 CRITERION= .3228
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7198E-01
HT FLOW CONVERGENCE VALUE= .5107E-01 CRITERION= .3215 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 30 COMPLETED. CUM ITER = 140
*** TIME = .187477E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3352E-05 OSCILLATION LIMIT = .3317
*** AUTO STEP TIME: NEXT TIME INC = 98963. UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.21 CRITERION= .3227
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7275E-01
HT FLOW CONVERGENCE VALUE= .5163E-01 CRITERION= .3216 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 31 COMPLETED. CUM ITER = 141
*** TIME = .188467E+08 TIME INC = 98962.6
*** RESPONSE EIGENVALUE = .3125E-05 OSCILLATION LIMIT = .3092
*** AUTO STEP TIME: NEXT TIME INC = 87918. DECREASED (FACTOR = .8884)

HT FLOW CONVERGENCE VALUE= 24.08 CRITERION= .3225
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6395E-01
HT FLOW CONVERGENCE VALUE= .4503E-01 CRITERION= .3214 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 32 COMPLETED. CUM ITER = 142
*** TIME = .189346E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3714E-05 OSCILLATION LIMIT = .3265

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***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 06:36:58 JUN 12, 1995 CP= 8356.430
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.79 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5591E-01
 HT FLOW CONVERGENCE VALUE= .3959E-01 CRITERION= .3215 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 143
 *** TIME = .190225E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3306E-05 OSCILLATION LIMIT = .2906
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.68 CRITERION= .3222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3790E-01 CRITERION= .3213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 144
 *** TIME = .191104E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .4744E-05 OSCILLATION LIMIT = .4170
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.79 CRITERION= .3220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5584E-01
 HT FLOW CONVERGENCE VALUE= .3900E-01 CRITERION= .3214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 145
 *** TIME = .191983E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3706E-05 OSCILLATION LIMIT = .3259
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.68 CRITERION= .3221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3819E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 146
 *** TIME = .192863E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .4184E-05 OSCILLATION LIMIT = .3678
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.80 CRITERION= .3219
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5581E-01
 HT FLOW CONVERGENCE VALUE= .3889E-01 CRITERION= .3213 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 147
 *** TIME = .193742E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3807E-05 OSCILLATION LIMIT = .3347
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.69 CRITERION= .3220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3820E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 148
 *** TIME = .194621E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .4114E-05 OSCILLATION LIMIT = .3617
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.80 CRITERION= .3218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5579E-01
 HT FLOW CONVERGENCE VALUE= .3882E-01 CRITERION= .3212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 149
 *** TIME = .195500E+08 TIME INC = 87918.2

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*** RESPONSE EIGENVALUE = .3788E-05  OSCILLATION LIMIT = .3330
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.69      CRITERION= .3219
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
  HT FLOW CONVERGENCE VALUE= .3818E-01 CRITERION= .3211    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 150
*** TIME = .196379E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .4073E-05  OSCILLATION LIMIT = .3581
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.80      CRITERION= .3217
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5576E-01
  HT FLOW CONVERGENCE VALUE= .3875E-01 CRITERION= .3211    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 151
*** TIME = .197259E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3765E-05  OSCILLATION LIMIT = .3310
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.70      CRITERION= .3218
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
  HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .3210    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 152
*** TIME = .198138E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .4038E-05  OSCILLATION LIMIT = .3550
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.81      CRITERION= .3217
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5574E-01
  HT FLOW CONVERGENCE VALUE= .3865E-01 CRITERION= .3211    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 153
*** TIME = .199017E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3742E-05  OSCILLATION LIMIT = .3290
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.70      CRITERION= .3217
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
  HT FLOW CONVERGENCE VALUE= .3806E-01 CRITERION= .3209    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 154
*** TIME = .199896E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .4005E-05  OSCILLATION LIMIT = .3521
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.81      CRITERION= .3216
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5572E-01
  HT FLOW CONVERGENCE VALUE= .3857E-01 CRITERION= .3210    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 155
*** TIME = .200775E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3718E-05  OSCILLATION LIMIT = .3269
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.70      CRITERION= .3216
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
  HT FLOW CONVERGENCE VALUE= .3798E-01 CRITERION= .3208    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 156
*** TIME = .201654E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3973E-05  OSCILLATION LIMIT = .3493
*** AUTO STEP TIME: NEXT TIME INC = 87918.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 20.81      CRITERION= .3215
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5569E-01
  HT FLOW CONVERGENCE VALUE= .3854E-01 CRITERION= .3209    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 157
 *** TIME = .202534E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3694E-05 OSCILLATION LIMIT = .3248
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.71 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3802E-01 CRITERION= .3207 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 158
 *** TIME = .203413E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3943E-05 OSCILLATION LIMIT = .3466
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.82 CRITERION= .3214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5567E-01
 HT FLOW CONVERGENCE VALUE= .3855E-01 CRITERION= .3208 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 159
 *** TIME = .204292E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3671E-05 OSCILLATION LIMIT = .3228
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.71 CRITERION= .3215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3801E-01 CRITERION= .3206 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 160
 *** TIME = .205171E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3915E-05 OSCILLATION LIMIT = .3442
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.82 CRITERION= .3213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5565E-01
 HT FLOW CONVERGENCE VALUE= .3850E-01 CRITERION= .3207 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 161
 *** TIME = .206050E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3651E-05 OSCILLATION LIMIT = .3210
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .3214
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3799E-01 CRITERION= .3205 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 162
 *** TIME = .206930E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3889E-05 OSCILLATION LIMIT = .3419
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.82 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5563E-01
 HT FLOW CONVERGENCE VALUE= .3846E-01 CRITERION= .3206 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 163
 *** TIME = .207809E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3631E-05 OSCILLATION LIMIT = .3193
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .3213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3797E-01 CRITERION= .3205 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 164
 *** TIME = .208688E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3864E-05 OSCILLATION LIMIT = .3397
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.83 CRITERION= .3211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5561E-01

HT FLOW CONVERGENCE VALUE= .3844E-01 CRITERION= .3205 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 165
 *** TIME = .209567E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3613E-05 OSCILLATION LIMIT = .3176
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.72 CRITERION= .3212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3793E-01 CRITERION= .3204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 166
 *** TIME = .210446E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3840E-05 OSCILLATION LIMIT = .3376
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.83 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5559E-01
 HT FLOW CONVERGENCE VALUE= .3837E-01 CRITERION= .3204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 167
 *** TIME = .211325E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3594E-05 OSCILLATION LIMIT = .3160
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.73 CRITERION= .3211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3790E-01 CRITERION= .3203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 168
 *** TIME = .212205E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3818E-05 OSCILLATION LIMIT = .3357
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.83 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5557E-01
 HT FLOW CONVERGENCE VALUE= .3832E-01 CRITERION= .3203 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 27 COMPLETED. CUM ITER = 169
 *** TIME = .213084E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3577E-05 OSCILLATION LIMIT = .3145
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.73 CRITERION= .3210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3787E-01 CRITERION= .3202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 28 COMPLETED. CUM ITER = 170
 *** TIME = .213963E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3796E-05 OSCILLATION LIMIT = .3338
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.84 CRITERION= .3209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5555E-01
 HT FLOW CONVERGENCE VALUE= .3827E-01 CRITERION= .3202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 29 COMPLETED. CUM ITER = 171
 *** TIME = .214842E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3561E-05 OSCILLATION LIMIT = .3131
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .3209
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
 HT FLOW CONVERGENCE VALUE= .3781E-01 CRITERION= .3201 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 30 COMPLETED. CUM ITER = 172
 *** TIME = .215721E+08 TIME INC = 87918.2
 *** RESPONSE EIGENVALUE = .3775E-05 OSCILLATION LIMIT = .3319
 *** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.84 CRITERION= .3208
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5553E-01
HT FLOW CONVERGENCE VALUE= .3820E-01 CRITERION= .3202 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 31 COMPLETED. CUM ITER = 173
*** TIME = .216601E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3545E-05 OSCILLATION LIMIT = .3117
*** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .3208
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
HT FLOW CONVERGENCE VALUE= .3777E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 32 COMPLETED. CUM ITER = 174
*** TIME = .217480E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3755E-05 OSCILLATION LIMIT = .3301
*** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.84 CRITERION= .3207
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5552E-01
HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .3201 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 33 COMPLETED. CUM ITER = 175
*** TIME = .218359E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3530E-05 OSCILLATION LIMIT = .3103
*** AUTO STEP TIME: NEXT TIME INC = 87918. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.74 CRITERION= .3207
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5503E-01
HT FLOW CONVERGENCE VALUE= .3774E-01 CRITERION= .3199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 34 COMPLETED. CUM ITER = 176
*** TIME = .219238E+08 TIME INC = 87918.2
*** RESPONSE EIGENVALUE = .3736E-05 OSCILLATION LIMIT = .3285
*** AUTO STEP TIME: NEXT TIME INC = 83270. DECREASED (FACTOR = .9471)

HT FLOW CONVERGENCE VALUE= 19.75 CRITERION= .3205
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5260E-01
HT FLOW CONVERGENCE VALUE= .3600E-01 CRITERION= .3200 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 35 COMPLETED. CUM ITER = 177
*** TIME = .220071E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .3658E-05 OSCILLATION LIMIT = .3046
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.65 CRITERION= .3206
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5212E-01
HT FLOW CONVERGENCE VALUE= .3561E-01 CRITERION= .3198 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 36 COMPLETED. CUM ITER = 178
*** TIME = .220904E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .3828E-05 OSCILLATION LIMIT = .3188

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 07:15:54 JUN 12, 1995 CP= 10656.510
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 16.84 CRITERION= .3203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4486E-01
HT FLOW CONVERGENCE VALUE= .3101E-01 CRITERION= .3199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 179
*** TIME = .221736E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .3423E-05 OSCILLATION LIMIT = .2851

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*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3204
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
  HT FLOW CONVERGENCE VALUE= .2950E-01 CRITERION= .3198    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 180
*** TIME = .222569E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .5350E-05 OSCILLATION LIMIT = .4455
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3202
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4480E-01
  HT FLOW CONVERGENCE VALUE= .3040E-01 CRITERION= .3198    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 181
*** TIME = .223402E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4131E-05 OSCILLATION LIMIT = .3439
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3203
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
  HT FLOW CONVERGENCE VALUE= .2984E-01 CRITERION= .3197    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 182
*** TIME = .224234E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4637E-05 OSCILLATION LIMIT = .3862
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3201
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4477E-01
  HT FLOW CONVERGENCE VALUE= .3029E-01 CRITERION= .3197    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 183
*** TIME = .225067E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4261E-05 OSCILLATION LIMIT = .3548
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3202
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
  HT FLOW CONVERGENCE VALUE= .2984E-01 CRITERION= .3196    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 184
*** TIME = .225900E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4574E-05 OSCILLATION LIMIT = .3809
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3201
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4475E-01
  HT FLOW CONVERGENCE VALUE= .3027E-01 CRITERION= .3197    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 185
*** TIME = .226732E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4250E-05 OSCILLATION LIMIT = .3539
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.74      CRITERION= .3201
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
  HT FLOW CONVERGENCE VALUE= .2983E-01 CRITERION= .3195    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 186
*** TIME = .227565E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4540E-05 OSCILLATION LIMIT = .3780
*** AUTO STEP TIME: NEXT TIME INC = 83270.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 16.84      CRITERION= .3200
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4474E-01
  HT FLOW CONVERGENCE VALUE= .3024E-01 CRITERION= .3196    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 187

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*** TIME = .228398E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4235E-05    OSCILLATION LIMIT = .3526
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3200
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2982E-01    CRITERION= .3195    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED.    CUM ITER = 188
*** TIME = .229231E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4510E-05    OSCILLATION LIMIT = .3756
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3199
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4472E-01
    HT FLOW CONVERGENCE VALUE= .3021E-01    CRITERION= .3195    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED.    CUM ITER = 189
*** TIME = .230063E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4219E-05    OSCILLATION LIMIT = .3513
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3199
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2982E-01    CRITERION= .3194    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED.    CUM ITER = 190
*** TIME = .230896E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4483E-05    OSCILLATION LIMIT = .3733
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3198
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4470E-01
    HT FLOW CONVERGENCE VALUE= .3018E-01    CRITERION= .3194    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED.    CUM ITER = 191
*** TIME = .231729E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4202E-05    OSCILLATION LIMIT = .3499
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3199
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2981E-01    CRITERION= .3193    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED.    CUM ITER = 192
*** TIME = .232561E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4458E-05    OSCILLATION LIMIT = .3712
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3197
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4468E-01
    HT FLOW CONVERGENCE VALUE= .3015E-01    CRITERION= .3193    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED.    CUM ITER = 193
*** TIME = .233394E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4185E-05    OSCILLATION LIMIT = .3485
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.75    CRITERION= .3198
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
    HT FLOW CONVERGENCE VALUE= .2978E-01    CRITERION= .3192    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED.    CUM ITER = 194
*** TIME = .234227E+08    TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4435E-05    OSCILLATION LIMIT = .3693
*** AUTO STEP TIME: NEXT TIME INC = 83270.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.85    CRITERION= .3197
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4466E-01
    HT FLOW CONVERGENCE VALUE= .3012E-01    CRITERION= .3193    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 195
*** TIME = .235059E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4169E-05 OSCILLATION LIMIT = .3471
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3197
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2978E-01 CRITERION= .3191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 196
*** TIME = .235892E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4413E-05 OSCILLATION LIMIT = .3675
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.85 CRITERION= .3196
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4465E-01
HT FLOW CONVERGENCE VALUE= .3010E-01 CRITERION= .3192 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 197
*** TIME = .236725E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4153E-05 OSCILLATION LIMIT = .3458
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3196
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2977E-01 CRITERION= .3191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 198
*** TIME = .237558E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4392E-05 OSCILLATION LIMIT = .3657
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4463E-01
HT FLOW CONVERGENCE VALUE= .3008E-01 CRITERION= .3191 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 199
*** TIME = .238390E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4138E-05 OSCILLATION LIMIT = .3446
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2976E-01 CRITERION= .3190 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 200
*** TIME = .239223E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4372E-05 OSCILLATION LIMIT = .3640
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4462E-01
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .3190 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 23 COMPLETED. CUM ITER = 201
*** TIME = .240056E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4123E-05 OSCILLATION LIMIT = .3433
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.76 CRITERION= .3195
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2972E-01 CRITERION= .3189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 24 COMPLETED. CUM ITER = 202
*** TIME = .240888E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4352E-05 OSCILLATION LIMIT = .3624
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3193

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4460E-01
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .3189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 25 COMPLETED. CUM ITER = 203
*** TIME = .241721E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4108E-05 OSCILLATION LIMIT = .3421
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.77 CRITERION= .3194
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2973E-01 CRITERION= .3188 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 26 COMPLETED. CUM ITER = 204
*** TIME = .242554E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4332E-05 OSCILLATION LIMIT = .3608
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.86 CRITERION= .3193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4458E-01
HT FLOW CONVERGENCE VALUE= .3004E-01 CRITERION= .3189 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 27 COMPLETED. CUM ITER = 205
*** TIME = .243387E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4094E-05 OSCILLATION LIMIT = .3409
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.77 CRITERION= .3193
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2975E-01 CRITERION= .3187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 28 COMPLETED. CUM ITER = 206
*** TIME = .244219E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4314E-05 OSCILLATION LIMIT = .3592
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3192
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4457E-01
HT FLOW CONVERGENCE VALUE= .3002E-01 CRITERION= .3188 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 29 COMPLETED. CUM ITER = 207
*** TIME = .245052E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4080E-05 OSCILLATION LIMIT = .3398
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.77 CRITERION= .3192
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2974E-01 CRITERION= .3187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 208
*** TIME = .245885E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4296E-05 OSCILLATION LIMIT = .3578
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3191
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4456E-01
HT FLOW CONVERGENCE VALUE= .3001E-01 CRITERION= .3187 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 31 COMPLETED. CUM ITER = 209
*** TIME = .246717E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4068E-05 OSCILLATION LIMIT = .3387
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.78 CRITERION= .3191
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2974E-01 CRITERION= .3186 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 32 COMPLETED. CUM ITER = 210
*** TIME = .247550E+08 TIME INC = 83270.4
*** RESPONSE EIGENVALUE = .4279E-05 OSCILLATION LIMIT = .3564
*** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4454E-01
 HT FLOW CONVERGENCE VALUE= .2997E-01 CRITERION= .3186 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 33 COMPLETED. CUM ITER = 211
 *** TIME = .248383E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4056E-05 OSCILLATION LIMIT = .3377
 *** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.78 CRITERION= .3191
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
 HT FLOW CONVERGENCE VALUE= .2970E-01 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 34 COMPLETED. CUM ITER = 212
 *** TIME = .249215E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4263E-05 OSCILLATION LIMIT = .3550
 *** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.87 CRITERION= .3189
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4453E-01
 HT FLOW CONVERGENCE VALUE= .2994E-01 CRITERION= .3185 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 35 COMPLETED. CUM ITER = 213
 *** TIME = .250048E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4044E-05 OSCILLATION LIMIT = .3367
 *** AUTO STEP TIME: NEXT TIME INC = 83270. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.78 CRITERION= .3190
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
 HT FLOW CONVERGENCE VALUE= .2965E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 36 COMPLETED. CUM ITER = 214
 *** TIME = .250881E+08 TIME INC = 83270.4
 *** RESPONSE EIGENVALUE = .4247E-05 OSCILLATION LIMIT = .3536
 *** AUTO STEP TIME: NEXT TIME INC = 79012. DECREASED (FACTOR = .9489)

HT FLOW CONVERGENCE VALUE= 16.01 CRITERION= .3188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4227E-01
 HT FLOW CONVERGENCE VALUE= .2831E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 37 COMPLETED. CUM ITER = 215
 *** TIME = .251671E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4170E-05 OSCILLATION LIMIT = .3295
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 15.92 CRITERION= .3188
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4199E-01
 HT FLOW CONVERGENCE VALUE= .2808E-01 CRITERION= .3183 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 38 COMPLETED. CUM ITER = 216
 *** TIME = .252461E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4337E-05 OSCILLATION LIMIT = .3427

***** ANSYS SOLVE COMMAND *****
 1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 07:56:58 JUN 12, 1995 CP= 13085.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 14.18 CRITERION= .3187
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3750E-01
 HT FLOW CONVERGENCE VALUE= .2528E-01 CRITERION= .3184 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 217
 *** TIME = .253251E+08 TIME INC = 79012.5

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*** RESPONSE EIGENVALUE = .3944E-05  OSCILLATION LIMIT = .3116
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3187
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
    HT FLOW CONVERGENCE VALUE= .2437E-01 CRITERION= .3183    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 218
*** TIME = .254041E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .5585E-05  OSCILLATION LIMIT = .4413
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.18      CRITERION= .3186
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3746E-01
    HT FLOW CONVERGENCE VALUE= .2496E-01 CRITERION= .3183    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 219
*** TIME = .254831E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4607E-05  OSCILLATION LIMIT = .3640
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3186
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
    HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .3182    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 220
*** TIME = .255622E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .5028E-05  OSCILLATION LIMIT = .3973
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.18      CRITERION= .3185
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3744E-01
    HT FLOW CONVERGENCE VALUE= .2490E-01 CRITERION= .3182    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 221
*** TIME = .256412E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4700E-05  OSCILLATION LIMIT = .3714
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3185
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
    HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3181    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 222
*** TIME = .257202E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4985E-05  OSCILLATION LIMIT = .3939
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.19      CRITERION= .3184
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3743E-01
    HT FLOW CONVERGENCE VALUE= .2489E-01 CRITERION= .3182    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 223
*** TIME = .257992E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4693E-05  OSCILLATION LIMIT = .3708
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.09      CRITERION= .3185
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
    HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3180    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 224
*** TIME = .258782E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4959E-05  OSCILLATION LIMIT = .3918
*** AUTO STEP TIME:  NEXT TIME INC = 79012.      UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.19      CRITERION= .3184
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3742E-01
    HT FLOW CONVERGENCE VALUE= .2488E-01 CRITERION= .3181    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 225
 *** TIME = .259572E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4682E-05 OSCILLATION LIMIT = .3700
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3184
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 226
 *** TIME = .260362E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4936E-05 OSCILLATION LIMIT = .3900
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3740E-01
 HT FLOW CONVERGENCE VALUE= .2487E-01 CRITERION= .3180 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 227
 *** TIME = .261152E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4671E-05 OSCILLATION LIMIT = .3691
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 228
 *** TIME = .261943E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4916E-05 OSCILLATION LIMIT = .3884
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3739E-01
 HT FLOW CONVERGENCE VALUE= .2486E-01 CRITERION= .3179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 229
 *** TIME = .262733E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4659E-05 OSCILLATION LIMIT = .3681
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3178 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 230
 *** TIME = .263523E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4897E-05 OSCILLATION LIMIT = .3869
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3738E-01
 HT FLOW CONVERGENCE VALUE= .2485E-01 CRITERION= .3179 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 231
 *** TIME = .264313E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4647E-05 OSCILLATION LIMIT = .3672
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3182
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3177 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 232
 *** TIME = .265103E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4879E-05 OSCILLATION LIMIT = .3855
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3181
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3737E-01

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HT FLOW CONVERGENCE VALUE= .2484E-01 CRITERION= .3178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 233
*** TIME = .265893E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4636E-05 OSCILLATION LIMIT = .3663
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3177 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 234
*** TIME = .266683E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4862E-05 OSCILLATION LIMIT = .3842
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.19 CRITERION= .3180
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3736E-01
HT FLOW CONVERGENCE VALUE= .2484E-01 CRITERION= .3177 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 235
*** TIME = .267473E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4624E-05 OSCILLATION LIMIT = .3654
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.10 CRITERION= .3180
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2463E-01 CRITERION= .3176 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 236
*** TIME = .268264E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4846E-05 OSCILLATION LIMIT = .3829
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3735E-01
HT FLOW CONVERGENCE VALUE= .2483E-01 CRITERION= .3176 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 237
*** TIME = .269054E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4614E-05 OSCILLATION LIMIT = .3645
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 238
*** TIME = .269844E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4830E-05 OSCILLATION LIMIT = .3816
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3178
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3734E-01
HT FLOW CONVERGENCE VALUE= .2482E-01 CRITERION= .3176 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 239
*** TIME = .270634E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4603E-05 OSCILLATION LIMIT = .3637
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 240
*** TIME = .271424E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4815E-05 OSCILLATION LIMIT = .3804
*** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3733E-01
 HT FLOW CONVERGENCE VALUE= .2481E-01 CRITERION= .3175 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 241
 *** TIME = .272214E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4593E-05 OSCILLATION LIMIT = .3629
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3178
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .3174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 242
 *** TIME = .273004E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4800E-05 OSCILLATION LIMIT = .3793
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3733E-01
 HT FLOW CONVERGENCE VALUE= .2480E-01 CRITERION= .3174 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 243
 *** TIME = .273794E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4583E-05 OSCILLATION LIMIT = .3621
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3177
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 244
 *** TIME = .274585E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4786E-05 OSCILLATION LIMIT = .3782
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3732E-01
 HT FLOW CONVERGENCE VALUE= .2478E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 245
 *** TIME = .275375E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4573E-05 OSCILLATION LIMIT = .3613
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.11 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 246
 *** TIME = .276165E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4772E-05 OSCILLATION LIMIT = .3771
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.20 CRITERION= .3175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3731E-01
 HT FLOW CONVERGENCE VALUE= .2477E-01 CRITERION= .3173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 247
 *** TIME = .276955E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4564E-05 OSCILLATION LIMIT = .3606
 *** AUTO STEP TIME: NEXT TIME INC = 79012. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.12 CRITERION= .3176
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
 HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3172 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 248
 *** TIME = .277745E+08 TIME INC = 79012.5
 *** RESPONSE EIGENVALUE = .4759E-05 OSCILLATION LIMIT = .3760


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*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.20      CRITERION= .3175
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3731E-01
  HT FLOW CONVERGENCE VALUE= .2476E-01 CRITERION= .3172      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 249
*** TIME = .278535E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4555E-05 OSCILLATION LIMIT = .3599
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.12      CRITERION= .3175
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3171      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 250
*** TIME = .279325E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4746E-05 OSCILLATION LIMIT = .3750
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.21      CRITERION= .3174
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3730E-01
  HT FLOW CONVERGENCE VALUE= .2475E-01 CRITERION= .3171      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 251
*** TIME = .280115E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4547E-05 OSCILLATION LIMIT = .3593
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.12      CRITERION= .3174
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3170      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 252
*** TIME = .280906E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4734E-05 OSCILLATION LIMIT = .3740
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.21      CRITERION= .3173
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3730E-01
  HT FLOW CONVERGENCE VALUE= .2475E-01 CRITERION= .3170      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 253
*** TIME = .281696E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4539E-05 OSCILLATION LIMIT = .3587
*** AUTO STEP TIME: NEXT TIME INC = 79012.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 14.12      CRITERION= .3173
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
  HT FLOW CONVERGENCE VALUE= .2460E-01 CRITERION= .3169      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 254
*** TIME = .282486E+08 TIME INC = 79012.5
*** RESPONSE EIGENVALUE = .4724E-05 OSCILLATION LIMIT = .3732
*** AUTO STEP TIME: NEXT TIME INC = 76643.      DECREASED (FACTOR = .9700)

  HT FLOW CONVERGENCE VALUE= 13.78      CRITERION= .3172
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3618E-01
  HT FLOW CONVERGENCE VALUE= .2398E-01 CRITERION= .3170      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 39 COMPLETED. CUM ITER = 255
*** TIME = .283252E+08 TIME INC = 76643.4
*** RESPONSE EIGENVALUE = .4611E-05 OSCILLATION LIMIT = .3534
*** AUTO STEP TIME: NEXT TIME INC = 76643.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 13.70      CRITERION= .3172
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3600E-01
  HT FLOW CONVERGENCE VALUE= .2384E-01 CRITERION= .3169      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 40 COMPLETED. CUM ITER = 256

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*** TIME = .284019E+08 TIME INC = 76643.4
 *** RESPONSE EIGENVALUE = .4772E-05 OSCILLATION LIMIT = .3657
 Apply loads and solve for 1 to 9 years

*DO LOOP ON PARAMETER= TM FROM .31558E+08 TO .28402E+09 BY .31558E+08

TIME= .31558E+08

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5654.64534 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 123.22 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 124.26 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 126.87 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 15657.700 TIME= 08:42:44
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 08:42:44 JUN 12, 1995 CP= 15657.700
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 13
 TIME AT END OF THE LOAD STEP.31558E+08
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25

VARIABLE 7 IS AT NODE 2465 ITEM= TEMP COMP= NAME= t08i045
 VARIABLE 8 IS AT NODE 2240 ITEM= TEMP COMP= NAME= s08i045
 VARIABLE 9 IS AT NODE 2331 ITEM= TEMP COMP= NAME= h08i045
 VARIABLE 10 IS AT NODE 2379 ITEM= TEMP COMP= NAME= c08i045
 VARIABLE 11 IS AT NODE 2427 ITEM= TEMP COMP= NAME= h08o045
 VARIABLE 12 IS AT NODE 2268 ITEM= TEMP COMP= NAME= s08o045
 VARIABLE 13 IS AT NODE 2494 ITEM= TEMP COMP= NAME= g08i045
 VARIABLE 14 IS AT NODE 3689 ITEM= TEMP COMP= NAME= g08o045
 VARIABLE 15 IS AT NODE 4332 ITEM= TEMP COMP= NAME= i08i045
 VARIABLE 16 IS AT NODE 4272 ITEM= TEMP COMP= NAME= i08o045
 VARIABLE 17 IS AT NODE 4521 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 11 and 12
 VARIABLE 18 IS AT NODE 3390 ITEM= TEMP COMP= NAME= c11i045
 VARIABLE 19 IS AT NODE 2716 ITEM= TEMP COMP= NAME= c12i045

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM AT TIME
2	NSOL	9 TEMP	c01i045	79.87	.3156E+11	240.7 .9467E+08
3	NSOL	84 TEMP	h01o045	79.13	.3156E+11	230.6 .1262E+09
4	NSOL	23 TEMP	s01o045	78.25	.3156E+11	218.1 .1578E+09
5	NSOL	348 TEMP	t01o045	78.21	.3156E+11	217.3 .1578E+09
6	NSOL	3831 TEMP	ts1o045	78.21	.3156E+11	217.3 .1578E+09
7	NSOL	2465 TEMP	t08i045	78.21	.3156E+11	217.2 .1578E+09
8	NSOL	2240 TEMP	s08i045	78.16	.3156E+11	216.3 .1578E+09
9	NSOL	2331 TEMP	h08i045	78.93	.3156E+11	226.5 .1262E+09
10	NSOL	2379 TEMP	c08i045	79.70	.3156E+11	235.4 .9467E+08
11	NSOL	2427 TEMP	h08o045	78.86	.3156E+11	221.3 .1262E+09
12	NSOL	2268 TEMP	s08o045	77.42	.3156E+11	197.3 .1578E+09
13	NSOL	2494 TEMP	g08i045	77.35	.3156E+11	195.8 .1578E+09
14	NSOL	3689 TEMP	g08o045	77.21	.3156E+11	193.1 .1578E+09
15	NSOL	4332 TEMP	i08i045	27.78	.1000E-05	149.2 .3156E+09
16	NSOL	4272 TEMP	i08o045	26.97	.1000E-05	148.3 .3156E+09
17	NSOL	4521 TEMP	o08o045	26.14	.1000E-05	147.5 .3156E+09
18	NSOL	3390 TEMP	c11i045	78.30	.3156E+11	210.5 .1578E+09
19	NSOL	2716 TEMP	c12i045	78.35	.3156E+11	211.3 .1578E+09
20	NSOL	4304 TEMP	i13i000	28.07	.1000E-05	150.1 .3156E+09
21	NSOL	4240 TEMP	i13o000	27.38	.1000E-05	149.5 .3156E+09
22	NSOL	4487 TEMP	o13o000	26.14	.1000E-05	148.6 .3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:16 JUN 13, 1995 CP= 69134.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i045	84 TEMP h01o045	23 TEMP s01o045	348 TEMP t01o045	3831 TEMP ts1o045	2465 TEMP t08i045
.10000E-05	163.607	148.656	130.031	128.935	128.908	128.886

.20000E-05	197.052	183.738	167.040	165.978	165.952	165.930
31.558	197.052	183.738	167.040	165.978	165.952	165.930
.31558E+07	219.658	207.468	192.058	191.063	191.038	191.018
.63116E+07	224.788	212.848	197.734	196.746	196.721	196.701
.94673E+07	227.824	216.049	201.146	200.164	200.140	200.120
.12623E+08	230.040	218.398	203.660	202.685	202.661	202.641
.15779E+08	231.723	220.198	205.609	204.639	204.615	204.595
.18935E+08	233.102	221.677	207.215	206.251	206.227	206.207
.22090E+08	234.231	222.897	208.550	207.590	207.566	207.547
.25246E+08	235.139	223.887	209.643	208.689	208.665	208.646
.28402E+08	235.902	224.725	210.577	209.628	209.604	209.585
.31558E+08	236.566	225.459	211.402	210.457	210.433	210.414
.63115E+08	240.048	229.455	216.057	215.149	215.126	215.108
.94673E+08	240.706	230.478	217.554	216.676	216.654	216.636
.12623E+09	240.510	230.571	218.023	217.171	217.149	217.132
.15779E+09	240.069	230.358	218.107	217.275	217.254	217.238
.18935E+09	238.770	229.309	217.384	216.576	216.556	216.539
.22090E+09	237.725	228.456	216.784	215.994	215.975	215.958
.25246E+09	236.638	227.550	216.114	215.342	215.323	215.307
.28402E+09	234.957	226.022	214.788	214.033	214.014	213.998
.31558E+09	233.588	224.774	213.701	212.958	212.939	212.924
.63115E+09	216.767	209.126	199.598	198.980	198.964	198.952
.94673E+09	200.688	193.930	185.584	185.059	185.046	185.036
.12623E+10	186.027	179.990	172.578	172.126	172.115	172.105
.15779E+10	173.408	168.002	161.399	161.007	160.998	160.990
.18935E+10	163.043	158.161	152.225	151.882	151.873	151.866
.22090E+10	154.390	149.955	144.587	144.282	144.275	144.269
.25246E+10	146.659	142.607	137.720	137.447	137.441	137.435
.28402E+10	140.538	136.804	132.311	132.063	132.057	132.052
.31558E+10	135.268	131.823	127.686	127.461	127.455	127.451
.63115E+10	110.021	107.897	105.372	105.242	105.239	105.236
.94673E+10	100.765	99.0889	97.1056	97.0056	97.0032	97.0012
.12623E+11	95.4799	94.0674	92.3990	92.3157	92.3138	92.3121
.15779E+11	91.7612	90.5276	89.0721	89.0000	88.9983	88.9968
.18935E+11	88.4455	87.3528	86.0651	86.0018	86.0003	85.9990
.22090E+11	85.7644	84.7826	83.6264	83.5698	83.5684	83.5673
.25246E+11	83.4523	82.5658	81.5228	81.4720	81.4708	81.4698
.28402E+11	81.5066	80.6966	79.7442	79.6980	79.6969	79.6959
.31558E+11	79.8735	79.1275	78.2510	78.2086	78.2076	78.2068

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:16 JUN 13, 1995 CP= 69134.300
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2240 TEMP s08i045	2331 TEMP h08i045	2379 TEMP c08i045	2427 TEMP h08o045	2268 TEMP s08o045	2494 TEMP g08i045
.10000E-05	127.616	143.843	159.153	141.931	110.120	108.370
.20000E-05	164.734	178.924	191.844	175.232	145.057	143.341
31.558	164.734	178.924	191.843	175.231	145.057	143.341
.31558E+07	189.914	202.892	214.358	198.218	169.222	167.532
.63116E+07	195.610	208.289	219.399	203.387	174.670	172.985
.94673E+07	199.040	211.510	222.392	206.481	178.007	176.331
.12623E+08	201.570	213.875	224.582	208.762	180.499	178.832
.15779E+08	203.533	215.692	226.248	210.515	182.450	180.792
.18935E+08	205.152	217.188	227.617	211.963	184.076	182.427
.22090E+08	206.499	218.425	228.740	213.162	185.441	183.800
.25246E+08	207.605	219.434	229.650	214.143	186.577	184.944
.28402E+08	208.550	220.289	230.416	214.977	187.559	185.933
.31558E+08	209.385	221.041	231.084	215.712	188.435	186.817
.63115E+08	214.124	225.183	234.650	219.814	193.644	192.086
.94673E+08	215.687	226.334	235.425	221.027	195.724	194.217
.12623E+09	216.211	226.538	235.346	221.319	196.730	195.266

.15779E+09	216.339	226.416	235.006	221.282	197.268	195.838
.18935E+09	215.666	225.476	233.842	220.470	197.112	195.722
.22090E+09	215.105	224.708	232.901	219.804	196.954	195.595
.25246E+09	214.472	223.883	231.915	219.078	196.708	195.379
.28402E+09	213.179	222.429	230.336	217.736	195.796	194.494
.31558E+09	212.118	221.241	229.048	216.637	195.038	193.757
.63115E+09	198.273	206.187	213.065	202.524	184.274	183.205
.94673E+09	184.452	191.437	197.623	188.523	172.829	171.922
.12623E+10	171.597	177.849	183.468	175.519	161.823	161.042
.15779E+10	160.546	166.156	171.258	164.277	152.263	151.587
.18935E+10	151.475	156.548	161.205	155.000	144.339	143.745
.22090E+10	143.920	148.526	152.792	147.225	137.687	137.160
.25246E+10	137.121	141.329	145.256	140.228	131.620	131.147
.28402E+10	131.765	135.646	139.288	134.695	126.833	126.404
.31558E+10	127.189	130.772	134.149	129.944	122.746	122.355
.63115E+10	105.083	107.297	109.431	106.932	102.661	102.434
.94673E+10	96.8825	98.6293	100.326	98.3793	95.0603	94.8856
.12623E+11	92.2131	93.6857	95.1207	93.4911	90.7139	90.5685
.15779E+11	88.9110	90.1974	91.4537	90.0366	87.6228	87.4968
.18935E+11	85.9235	87.0630	88.1784	86.9287	84.8017	84.6910
.22090E+11	83.4998	84.5238	85.5276	84.4081	82.5031	82.4043
.25246E+11	81.4091	82.3339	83.2417	82.2340	80.5200	80.4312
.28402E+11	79.6409	80.4861	81.3168	80.3984	78.8367	78.7560
.31558E+11	78.1563	78.9348	79.7009	78.8571	77.4224	77.3484

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:16 JUN 13, 1995 CP= 69134.320
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3689 TEMP g08o045	4332 TEMP i08i045	4272 TEMP i08o045	4521 TEMP o08o045	3390 TEMP c11i045	2716 TEMP c12i045
.10000E-05	105.009	27.7836	26.9684	26.1414	129.543	129.718
.20000E-05	140.031	71.1653	70.1966	69.2251	162.786	163.006
31.558	140.031	71.1653	70.1966	69.2251	162.785	163.006
.31558E+07	164.287	101.717	100.665	99.6078	185.667	186.450
.63116E+07	169.755	108.542	107.480	106.419	190.854	191.649
.94673E+07	173.119	112.930	111.864	110.803	194.007	194.801
.12623E+08	175.636	116.273	115.206	114.145	196.353	197.147
.15779E+08	177.612	118.965	117.897	116.840	198.166	198.957
.18935E+08	179.262	121.240	120.173	119.118	199.673	200.463
.22090E+08	180.649	123.190	122.125	121.073	200.929	201.717
.25246E+08	181.807	124.854	123.792	122.743	201.963	202.753
.28402E+08	182.811	126.324	125.265	124.220	202.850	203.639
.31558E+08	183.708	127.662	126.605	125.563	203.637	204.424
.63115E+08	189.090	136.235	135.208	134.197	208.168	208.937
.94673E+08	191.315	140.718	139.721	138.740	209.740	210.490
.12623E+09	192.445	143.614	142.644	141.690	210.336	211.071
.15779E+09	193.084	145.635	144.686	143.755	210.547	211.269
.18935E+09	193.046	147.092	146.171	145.267	210.026	210.735
.22090E+09	192.979	148.174	147.275	146.392	209.586	210.283
.25246E+09	192.820	149.086	148.207	147.344	209.074	209.762
.28402E+09	191.988	149.158	148.299	147.456	207.931	208.605
.31558E+09	191.294	149.179	148.335	147.507	206.991	207.654
.63115E+09	181.156	145.740	145.052	144.377	194.432	195.002
.94673E+09	170.185	139.638	139.069	138.508	181.641	182.140
.12623E+10	159.544	132.707	132.227	131.753	169.592	170.028
.15779E+10	150.287	126.612	126.203	125.800	159.134	159.522
.18935E+10	142.602	121.499	121.146	120.797	150.466	150.816
.22090E+10	136.145	117.194	116.887	116.581	143.187	143.507
.25246E+10	130.238	113.064	112.792	112.522	136.605	136.897
.28402E+10	125.578	109.848	109.605	109.362	131.402	131.673
.31558E+10	121.602	107.177	106.958	106.738	126.942	127.194

.63115E+10	102.001	93.3768	93.2579	93.1384	105.201	105.360
.94673E+10	94.5524	87.8313	87.7426	87.6531	97.0452	97.1714
.12623E+11	90.2917	84.6601	84.5876	84.5144	92.3823	92.4895
.15779E+11	87.2575	82.3551	82.2931	82.2304	89.0775	89.1710
.18935E+11	84.4813	80.1576	80.1039	80.0495	86.0893	86.1711
.22090E+11	82.2172	78.3387	78.2912	78.2432	83.6588	83.7320
.25246E+11	80.2634	76.7713	76.7289	76.6860	81.5627	81.6286
.28402E+11	78.6037	75.4194	75.3813	75.3428	79.7888	79.8494
.31558E+11	77.2088	74.2822	74.2475	74.2121	78.2987	78.3548

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 69134.490 TIME= 00:44:17
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 88 ITEM= TEMP COMP= NAME= h01o090
 VARIABLE 4 IS AT NODE 30 ITEM= TEMP COMP= NAME= s01o090
 VARIABLE 5 IS AT NODE 369 ITEM= TEMP COMP= NAME= t01o090
 VARIABLE 6 IS AT NODE 3936 ITEM= TEMP COMP= NAME= ts1o090
 VARIABLE 7 IS AT NODE 412 ITEM= TEMP COMP= NAME= t02i090
 VARIABLE 8 IS AT NODE 129 ITEM= TEMP COMP= NAME= s02i090
 VARIABLE 9 IS AT NODE 209 ITEM= TEMP COMP= NAME= h02i090
 VARIABLE 10 IS AT NODE 261 ITEM= TEMP COMP= NAME= c02i090
 VARIABLE 11 IS AT NODE 313 ITEM= TEMP COMP= NAME= h02o090
 VARIABLE 12 IS AT NODE 157 ITEM= TEMP COMP= NAME= s02o090
 VARIABLE 13 IS AT NODE 469 ITEM= TEMP COMP= NAME= t02i090
 VARIABLE 14 IS AT NODE 1236 ITEM= TEMP COMP= NAME= s04i090
 VARIABLE 15 IS AT NODE 1316 ITEM= TEMP COMP= NAME= h04i090
 VARIABLE 16 IS AT NODE 1368 ITEM= TEMP COMP= NAME= c04i090
 VARIABLE 17 IS AT NODE 1407 ITEM= TEMP COMP= NAME= h04o090
 VARIABLE 18 IS AT NODE 1264 ITEM= TEMP COMP= NAME= s04o090
 VARIABLE 19 IS AT NODE 1518 ITEM= TEMP COMP= NAME= t04o090
 VARIABLE 20 IS AT NODE 4057 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 21 IS AT NODE 3993 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 22 IS AT NODE 4484 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i090	79.87	.3156E+11	240.7	.9467E+08
3 NSOL	88 TEMP	h01o090	79.44	.3156E+11	234.9	.9467E+08
4 NSOL	30 TEMP	s01o090	78.39	.3156E+11	220.9	.1578E+09
5 NSOL	369 TEMP	t01o090	78.39	.3156E+11	220.8	.1578E+09
6 NSOL	3936 TEMP	ts1o090	78.39	.3156E+11	220.8	.1578E+09

7 NSOL	412 TEMP	t02i090	78.39	.3156E+11	220.8	.1578E+09
8 NSOL	129 TEMP	s02i090	78.39	.3156E+11	220.9	.1578E+09
9 NSOL	209 TEMP	h02i090	79.37	.3156E+11	233.6	.1262E+09
10 NSOL	261 TEMP	c02i090	79.76	.3156E+11	238.2	.9467E+08
11 NSOL	313 TEMP	h02o090	79.35	.3156E+11	232.2	.1262E+09
12 NSOL	157 TEMP	s02o090	78.45	.3156E+11	220.1	.1578E+09
13 NSOL	469 TEMP	t02i090	78.45	.3156E+11	220.0	.1578E+09
14 NSOL	1236 TEMP	s04i090	78.45	.3156E+11	220.0	.1578E+09
15 NSOL	1316 TEMP	h04i090	78.86	.3156E+11	223.2	.1262E+09
16 NSOL	1368 TEMP	c04i090	78.75	.3156E+11	219.1	.1578E+09
17 NSOL	1407 TEMP	h04o090	78.16	.3156E+11	208.9	.1578E+09
18 NSOL	1264 TEMP	s04o090	76.39	.3156E+11	179.3	.2525E+09
19 NSOL	1518 TEMP	t04o090	76.39	.3156E+11	179.1	.2525E+09
20 NSOL	4057 TEMP	i04i090	28.51	.1000E-05	148.7	.3156E+09
21 NSOL	3993 TEMP	i04o090	27.57	.1000E-05	147.7	.3156E+09
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	146.5	.3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i090	88 TEMP h01o090	30 TEMP s01o090	369 TEMP t01o090	3936 TEMP ts1o090	412 TEMP t02i090
.10000E-05	163.607	155.116	133.736	133.602	133.597	133.601
.20000E-05	197.052	189.514	170.633	170.504	170.499	170.504
31.558	197.052	189.513	170.634	170.505	170.500	170.504
.31558E+07	219.658	212.730	195.395	195.271	195.266	195.270
.63116E+07	224.788	218.005	201.047	200.924	200.919	200.923
.94673E+07	227.824	221.136	204.437	204.316	204.311	204.315
.12623E+08	230.040	223.427	206.930	206.809	206.804	206.809
.15779E+08	231.723	225.179	208.861	208.741	208.736	208.740
.18935E+08	233.102	226.615	210.449	210.330	210.325	210.329
.22090E+08	234.231	227.796	211.767	211.648	211.643	211.647
.25246E+08	235.139	228.751	212.844	212.726	212.721	212.725
.28402E+08	235.902	229.556	213.761	213.644	213.639	213.643
.31558E+08	236.566	230.260	214.570	214.454	214.449	214.453
.63115E+08	240.048	234.035	219.102	218.990	218.986	218.989
.94673E+08	240.706	234.899	220.498	220.390	220.386	220.389
.12623E+09	240.510	234.866	220.882	220.777	220.773	220.777
.15779E+09	240.069	234.554	220.897	220.795	220.791	220.794
.18935E+09	238.770	233.395	220.093	219.993	219.989	219.992
.22090E+09	237.725	232.458	219.430	219.333	219.329	219.332
.25246E+09	236.638	231.472	218.701	218.606	218.602	218.605
.28402E+09	234.957	229.877	217.322	217.229	217.225	217.228
.31558E+09	233.588	228.576	216.192	216.100	216.097	216.100
.63115E+09	216.767	212.410	201.669	201.592	201.589	201.591
.94673E+09	200.688	196.824	187.338	187.272	187.269	187.271
.12623E+10	186.027	182.568	174.090	174.032	174.030	174.032
.15779E+10	173.408	170.305	162.707	162.657	162.655	162.657
.18935E+10	163.043	160.236	153.372	153.328	153.326	153.328
.22090E+10	154.390	151.836	145.602	145.563	145.562	145.563
.25246E+10	146.659	144.323	138.631	138.595	138.594	138.595
.28402E+10	140.538	138.383	133.136	133.104	133.103	133.104
.31558E+10	135.268	133.279	128.437	128.408	128.407	128.408
.63115E+10	110.021	108.790	105.804	105.786	105.786	105.786
.94673E+10	100.765	99.7918	97.4369	97.4236	97.4231	97.4235
.12623E+11	95.4799	94.6591	92.6747	92.6636	92.6631	92.6635
.15779E+11	91.7612	91.0441	89.3110	89.3013	89.3010	89.3013
.18935E+11	88.4455	87.8101	86.2751	86.2667	86.2664	86.2666
.22090E+11	85.7644	85.1933	83.8145	83.8069	83.8067	83.8069
.25246E+11	83.4523	82.9366	81.6913	81.6846	81.6843	81.6845
.28402E+11	81.5066	81.0352	79.8977	79.8915	79.8912	79.8914

1 .31558E+11 79.8735 79.4392 78.3913 78.3856 78.3854 78.3856

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	129 TEMP s02i090	209 TEMP h02i090	261 TEMP c02i090	313 TEMP h02o090	157 TEMP s02o090	469 TEMP t02i090
.10000E-05	133.728	153.668	161.136	152.905	134.623	134.560
.20000E-05	170.625	188.056	194.486	186.996	170.761	170.700
31.558	170.625	188.055	194.486	186.995	170.762	170.700
.31558E+07	195.386	211.257	217.018	209.974	194.959	194.899
.63116E+07	201.037	216.534	222.139	215.206	200.492	200.432
.94673E+07	204.428	219.671	225.176	218.321	203.817	203.757
.12623E+08	206.921	221.967	227.395	220.603	206.262	206.202
.15779E+08	208.852	223.723	229.083	222.348	208.158	208.098
.18935E+08	210.440	225.163	230.467	223.782	209.717	209.658
.22090E+08	211.757	226.349	231.602	224.962	211.011	210.952
.25246E+08	212.834	227.309	232.517	225.919	212.069	212.010
.28402E+08	213.752	228.120	233.287	226.727	212.971	212.913
.31558E+08	214.561	228.829	233.959	227.435	213.767	213.709
.63115E+08	219.093	232.649	237.513	231.266	218.240	218.184
.94673E+08	220.489	233.554	238.240	232.199	219.631	219.577
.12623E+09	220.874	233.556	238.107	232.232	220.026	219.973
.15779E+09	220.889	233.273	237.718	231.976	220.056	220.004
.18935E+09	220.084	232.149	236.484	230.891	219.281	219.231
.22090E+09	219.422	231.239	235.489	230.011	218.643	218.594
.25246E+09	218.693	230.279	234.449	229.080	217.938	217.890
.28402E+09	217.314	228.709	232.815	227.541	216.592	216.546
.31558E+09	216.185	227.428	231.483	226.285	215.489	215.443
.63115E+09	201.663	211.456	215.029	210.565	201.235	201.196
.94673E+09	187.333	196.012	199.220	195.308	187.101	187.068
.12623E+10	174.086	181.872	184.775	181.311	173.997	173.969
.15779E+10	162.704	169.704	172.334	169.253	162.709	162.685
.18935E+10	153.369	159.710	162.108	159.338	153.432	153.411
.22090E+10	145.600	151.369	153.562	151.054	145.695	145.676
.25246E+10	138.628	143.904	145.919	143.635	138.746	138.730
.28402E+10	133.134	138.003	139.869	137.769	133.265	133.250
.31558E+10	128.435	132.932	134.660	132.727	128.574	128.560
.63115E+10	105.803	108.590	109.676	108.496	105.940	105.932
.94673E+10	97.4361	99.6382	100.500	99.5713	97.5565	97.5503
.12623E+11	92.6741	94.5312	95.2595	94.4776	92.7798	92.7746
.15779E+11	89.3104	90.9332	91.5705	90.8880	89.4049	89.4004
.18935E+11	86.2747	87.7129	88.2784	87.6743	86.3606	86.3566
.22090E+11	83.8141	85.1064	85.6152	85.0726	83.8922	83.8887
.25246E+11	81.6910	82.8586	83.3185	82.8288	81.7628	81.7597
.28402E+11	79.8973	80.9643	81.3850	80.9377	79.9636	79.9607
.31558E+11	78.3910	79.3742	79.7621	79.3502	78.4528	78.4502

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.660
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1236 TEMP s04i090	1316 TEMP h04i090	1368 TEMP c04i090	1407 TEMP h04o090	1264 TEMP s04o090	1518 TEMP t04o090
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.10000E-05	134.571	142.335	139.454	127.010	86.6689	86.4876
.20000E-05	170.706	176.606	172.900	160.718	122.325	122.133
31.558	170.706	176.606	172.900	160.718	122.326	122.133
.31558E+07	194.902	199.668	195.462	183.499	146.590	146.393
.63116E+07	200.434	204.946	200.645	188.749	152.222	152.024
.94673E+07	203.759	208.119	203.778	191.945	155.745	155.546
.12623E+08	206.204	210.457	206.094	194.320	158.394	158.196
.15779E+08	208.100	212.252	207.874	196.165	160.496	160.298
.18935E+08	209.659	213.734	209.347	197.696	162.256	162.059
.22090E+08	210.953	214.961	210.569	198.975	163.750	163.553
.25246E+08	212.011	215.961	211.567	200.028	165.001	164.805
.28402E+08	212.914	216.812	212.419	200.933	166.097	165.901
.31558E+08	213.710	217.561	213.171	201.737	167.083	166.887
.63115E+08	218.184	221.732	217.407	206.387	173.168	172.977
.94673E+08	219.577	222.951	218.718	208.036	175.947	175.762
.12623E+09	219.973	223.228	219.088	208.691	177.533	177.353
.15779E+09	220.004	223.171	219.112	208.947	178.538	178.362
.18935E+09	219.231	222.319	218.366	208.469	178.913	178.742
.22090E+09	218.594	221.621	217.752	208.064	179.169	179.002
.25246E+09	217.890	220.862	217.074	207.583	179.311	179.148
.28402E+09	216.546	219.484	215.779	206.469	178.758	178.599
.31558E+09	215.443	218.356	214.718	205.552	178.286	178.129
.63115E+09	201.197	203.887	200.925	193.185	170.260	170.131
.94673E+09	187.070	189.590	187.160	180.530	160.859	160.752
.12623E+10	173.971	176.364	174.357	168.593	151.433	151.342
.15779E+10	162.687	164.947	163.279	158.237	143.188	143.110
.18935E+10	153.413	155.538	154.122	149.652	136.316	136.248
.22090E+10	145.678	147.658	146.434	142.444	130.529	130.470
.25246E+10	138.732	140.582	139.515	135.921	125.176	125.124
.28402E+10	133.252	134.989	134.042	130.766	120.959	120.911
.31558E+10	128.562	130.189	129.344	126.351	117.378	117.335
.63115E+10	105.933	107.014	106.583	104.823	99.5183	99.4941
.94673E+10	97.5514	98.4240	98.1081	96.7450	92.6320	92.6137
.12623E+11	92.7756	93.5205	93.2655	92.1278	88.6909	88.6758
.15779E+11	89.4013	90.0578	89.8419	88.8548	85.8700	85.8569
.18935E+11	86.3574	86.9448	86.7602	85.8921	83.2641	83.2527
.22090E+11	83.8894	84.4204	84.2581	83.4817	81.1294	81.1193
.25246E+11	81.7603	82.2430	82.1001	81.4024	79.2870	79.2780
.28402E+11	79.9613	80.4048	80.2769	79.6419	77.7151	77.7069
.31558E+11	78.4508	78.8612	78.7456	78.1629	76.3934	76.3859

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.680
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4057 TEMP	3993 TEMP	4484 TEMP
	i04i090	i04o090	o04o090
.10000E-05	28.5099	27.5717	26.1414
.20000E-05	71.8431	70.7487	69.1943
31.558	71.8431	70.7487	69.1943
.31558E+07	101.110	99.9220	98.2623
.63116E+07	107.919	106.720	105.065
.94673E+07	112.308	111.106	109.459
.12623E+08	115.650	114.446	112.806
.15779E+08	118.344	117.142	115.511
.18935E+08	120.620	119.418	117.795
.22090E+08	122.572	121.373	119.757
.25246E+08	124.231	123.035	121.426
.28402E+08	125.702	124.509	122.908
.31558E+08	127.039	125.850	124.255
.63115E+08	135.629	134.472	132.937
.94673E+08	140.127	139.004	137.520

.12623E+09	143.035	141.942	140.501
.15779E+09	145.067	143.998	142.593
.18935E+09	146.529	145.491	144.128
.22090E+09	147.619	146.606	145.274
.25246E+09	148.535	147.544	146.243
.28402E+09	148.623	147.654	146.382
.31558E+09	148.655	147.704	146.455
.63115E+09	145.283	144.506	143.480
.94673E+09	139.228	138.583	137.722
.12623E+10	132.345	131.801	131.066
.15779E+10	126.282	125.818	125.186
.18935E+10	121.195	120.794	120.242
.22090E+10	116.909	116.559	116.072
.25246E+10	112.801	112.492	112.058
.28402E+10	109.600	109.322	108.930
.31558E+10	106.940	106.690	106.333
.63115E+10	93.2167	93.0797	92.8805
.94673E+10	87.7008	87.5983	87.4475
.12623E+11	84.5476	84.4636	84.3393
.15779E+11	82.2563	82.1844	82.0774
.18935E+11	80.0713	80.0089	79.9157
.22090E+11	78.2614	78.2061	78.1235
.25246E+11	76.7012	76.6520	76.5780
.28402E+11	75.3547	75.3102	75.2434
.31558E+11	74.2217	74.1812	74.1199

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 69137.840 TIME= 00:44:20
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 91 ITEM= TEMP COMP= NAME= h01o135
 VARIABLE 4 IS AT NODE 16 ITEM= TEMP COMP= NAME= s01o135
 VARIABLE 5 IS AT NODE 362 ITEM= TEMP COMP= NAME= t01o135
 VARIABLE 6 IS AT NODE 3770 ITEM= TEMP COMP= NAME= ts1o135
 VARIABLE 7 IS AT NODE 1790 ITEM= TEMP COMP= NAME= t07i135
 VARIABLE 8 IS AT NODE 1565 ITEM= TEMP COMP= NAME= s07i135
 VARIABLE 9 IS AT NODE 1649 ITEM= TEMP COMP= NAME= h07i135
 VARIABLE 10 IS AT NODE 1705 ITEM= TEMP COMP= NAME= c07i135
 VARIABLE 11 IS AT NODE 1760 ITEM= TEMP COMP= NAME= h07o135
 VARIABLE 12 IS AT NODE 1580 ITEM= TEMP COMP= NAME= s07o135
 VARIABLE 13 IS AT NODE 1848 ITEM= TEMP COMP= NAME= g07i135
 VARIABLE 14 IS AT NODE 3603 ITEM= TEMP COMP= NAME= g07o135
 VARIABLE 15 IS AT NODE 4085 ITEM= TEMP COMP= NAME= i07i135
 VARIABLE 16 IS AT NODE 4025 ITEM= TEMP COMP= NAME= i07o135
 VARIABLE 17 IS AT NODE 4713 ITEM= TEMP COMP= NAME= o07o135
 Add centers of assemblies 9 and 10
 VARIABLE 18 IS AT NODE 3053 ITEM= TEMP COMP= NAME= c09i135
 VARIABLE 19 IS AT NODE 2042 ITEM= TEMP COMP= NAME= c10i135

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i135	79.87	.3156E+11	240.7	.9467E+08
3 NSOL	91 TEMP	h01o135	79.26	.3156E+11	232.4	.1262E+09
4 NSOL	16 TEMP	s01o135	78.22	.3156E+11	217.8	.1578E+09
5 NSOL	362 TEMP	t01o135	78.18	.3156E+11	216.9	.1578E+09
6 NSOL	3770 TEMP	ts1o135	78.17	.3156E+11	216.9	.1578E+09
7 NSOL	1790 TEMP	t07i135	78.17	.3156E+11	216.9	.1578E+09
8 NSOL	1565 TEMP	s07i135	78.12	.3156E+11	215.9	.1578E+09
9 NSOL	1649 TEMP	h07i135	78.88	.3156E+11	226.0	.1262E+09
10 NSOL	1705 TEMP	c07i135	79.63	.3156E+11	234.7	.9467E+08
11 NSOL	1760 TEMP	h07o135	78.95	.3156E+11	223.4	.1262E+09
12 NSOL	1580 TEMP	s07o135	77.32	.3156E+11	196.2	.1578E+09
13 NSOL	1848 TEMP	g07i135	77.24	.3156E+11	194.7	.1578E+09
14 NSOL	3603 TEMP	g07o135	77.10	.3156E+11	192.0	.1578E+09
15 NSOL	4085 TEMP	i07i135	27.78	.1000E-05	147.7	.3156E+09
16 NSOL	4025 TEMP	i07o135	26.97	.1000E-05	146.9	.3156E+09
17 NSOL	4713 TEMP	o07o135	26.14	.1000E-05	146.1	.3156E+09
18 NSOL	3053 TEMP	c09i135	78.23	.3156E+11	209.9	.1578E+09
19 NSOL	2042 TEMP	c10i135	78.22	.3156E+11	209.9	.1578E+09
20 NSOL	4057 TEMP	i04i090	28.51	.1000E-05	148.7	.3156E+09
21 NSOL	3993 TEMP	i04o090	27.57	.1000E-05	147.7	.3156E+09
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	146.5	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:23 JUN 13, 1995 CP= 69140.500
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i135	91 TEMP h01o135	16 TEMP s01o135	362 TEMP t01o135	3770 TEMP ts1o135	1790 TEMP t07i135
.10000E-05	163.607	151.611	130.031	128.935	128.908	128.886
.20000E-05	197.052	186.374	167.029	165.966	165.939	165.918
31.558	197.052	186.374	167.029	165.966	165.939	165.918
.31558E+07	219.658	209.767	191.723	190.649	190.622	190.600
.63116E+07	224.788	215.098	197.396	196.329	196.302	196.281
.94673E+07	227.824	218.268	200.811	199.752	199.725	199.703
.12623E+08	230.040	220.590	203.327	202.274	202.248	202.226
.15779E+08	231.723	222.368	205.278	204.231	204.205	204.184
.18935E+08	233.102	223.828	206.886	205.845	205.819	205.797
.22090E+08	234.231	225.030	208.222	207.187	207.161	207.140
.25246E+08	235.139	226.004	209.316	208.286	208.260	208.239
.28402E+08	235.902	226.827	210.250	209.225	209.199	209.178
.31558E+08	236.566	227.548	211.076	210.055	210.029	210.009
.63115E+08	240.048	231.445	215.741	214.761	214.736	214.716
.94673E+08	240.706	232.398	217.247	216.299	216.275	216.255
.12623E+09	240.510	232.436	217.723	216.802	216.778	216.759
.15779E+09	240.069	232.179	217.813	216.914	216.891	216.872
.18935E+09	238.770	231.081	217.095	216.220	216.198	216.180
.22090E+09	237.725	230.191	216.500	215.645	215.623	215.605
.25246E+09	236.638	229.249	215.834	214.997	214.976	214.959
.28402E+09	234.957	227.693	214.515	213.695	213.674	213.658
.31558E+09	233.588	226.423	213.432	212.626	212.606	212.590
.63115E+09	216.767	210.549	199.365	198.692	198.675	198.662
.94673E+09	200.688	195.183	185.377	184.804	184.789	184.778
.12623E+10	186.027	181.107	172.396	171.900	171.888	171.878
.15779E+10	173.408	168.999	161.235	160.804	160.794	160.785
.18935E+10	163.043	159.059	152.076	151.697	151.688	151.680
.22090E+10	154.390	150.768	144.449	144.112	144.103	144.097

.25246E+10	146.659	143.348	137.594	137.291	137.283	137.277
.28402E+10	140.538	137.485	132.192	131.916	131.909	131.904
.31558E+10	135.268	132.451	127.575	127.323	127.316	127.311
.63115E+10	110.021	108.280	105.300	105.152	105.149	105.146
.94673E+10	100.765	99.3903	97.0475	96.9335	96.9307	96.9285
.12623E+11	95.4799	94.3208	92.3493	92.2541	92.2518	92.2499
.15779E+11	91.7612	90.7487	89.0285	88.9459	88.9439	88.9423
.18935E+11	88.4455	87.5487	86.0270	85.9544	85.9526	85.9512
.22090E+11	85.7644	84.9586	83.5922	83.5273	83.5257	83.5244
.25246E+11	83.4523	82.7246	81.4918	81.4335	81.4321	81.4309
.28402E+11	81.5066	80.8416	79.7157	79.6625	79.6612	79.6602
.31558E+11	79.8735	79.2609	78.2244	78.1756	78.1744	78.1735

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:23 JUN 13, 1995 CP= 69140.520
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1565 TEMP s07i135	1649 TEMP h07i135	1705 TEMP c07i135	1760 TEMP h07o135	1580 TEMP s07o135	1848 TEMP g07i135
.10000E-05	127.616	143.843	159.153	145.647	110.120	108.370
.20000E-05	164.719	178.906	191.821	178.728	145.020	143.305
.31558E+07	164.719	178.905	191.821	178.728	145.021	143.305
.63116E+07	189.416	202.269	213.614	200.676	168.013	166.310
.94673E+07	195.110	207.662	218.647	205.798	173.447	171.750
.12623E+08	198.544	210.889	221.645	208.870	176.791	175.102
.15779E+08	201.077	213.257	223.838	211.130	179.286	177.607
.18935E+08	203.043	215.078	225.508	212.866	181.245	179.574
.22090E+08	204.665	216.577	226.879	214.298	182.874	181.212
.25246E+08	206.015	217.817	228.006	215.482	184.246	182.592
.28402E+08	207.120	218.825	228.915	216.445	185.381	183.735
.31558E+08	208.066	219.681	229.681	217.264	186.363	184.725
.63115E+08	208.903	220.434	230.351	217.984	187.242	185.611
.94673E+08	213.658	224.595	233.936	221.988	192.483	190.913
.12623E+09	215.234	225.761	234.727	223.126	194.591	193.072
.15779E+09	215.768	225.977	234.662	223.355	195.622	194.145
.18935E+09	215.905	225.866	234.334	223.268	196.179	194.738
.22090E+09	215.239	224.935	233.180	222.394	196.039	194.638
.25246E+09	214.685	224.176	232.249	221.682	195.898	194.528
.28402E+09	214.058	223.356	231.270	220.911	195.665	194.324
.31558E+09	212.775	221.915	229.705	219.537	194.775	193.463
.63115E+09	211.721	220.735	228.428	218.413	194.036	192.745
.94673E+09	197.928	205.746	212.521	204.014	183.400	182.322
.12623E+10	184.145	191.043	197.134	189.789	172.051	171.136
.15779E+10	171.326	177.500	183.033	176.620	161.134	160.347
.18935E+10	160.303	165.842	170.866	165.234	151.642	150.960
.22090E+10	151.253	156.261	160.846	155.839	143.771	143.172
.25246E+10	143.715	148.259	152.458	147.965	137.162	136.629
.28402E+10	136.932	141.084	144.948	140.890	131.137	130.660
.31558E+10	131.589	135.417	138.998	135.291	126.380	125.946
.63115E+10	127.023	130.556	133.876	130.481	122.320	121.924
.94673E+10	104.975	107.156	109.252	107.232	102.383	102.153
.12623E+11	96.7956	98.5154	100.181	98.6069	94.8356	94.6589
.15779E+11	92.1388	93.5881	94.9964	93.6784	90.5217	90.3745
.18935E+11	88.8458	90.1118	91.3446	90.1984	87.4542	87.3266
.22090E+11	85.8664	86.9880	88.0826	87.0721	84.6538	84.5418
.25246E+11	83.4486	84.4565	85.4416	84.5365	82.3706	82.2705
.28402E+11	81.3628	82.2729	83.1638	82.3490	80.3999	80.3101
.31558E+11	79.5982	80.4299	81.2450	80.5023	78.7261	78.6445
	78.1165	78.8825	79.6341	78.9514	77.3194	77.2445

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 00:44:23 JUN 13, 1995 CP= 69140.530
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3603 TEMP g07o135	4085 TEMP 107i135	4025 TEMP 107o135	4713 TEMP o07o135	3053 TEMP c09i135	2042 TEMP c10i135
.10000E-05	105.009	27.7836	26.9684	26.1414	129.543	129.718
.20000E-05	139.994	71.1075	70.1388	69.1674	162.764	162.960
31.558	139.994	71.1075	70.1388	69.1674	162.764	162.960
.31558E+07	163.042	99.8105	98.7572	97.6998	184.939	184.917
.63116E+07	168.497	106.634	105.570	104.506	190.117	190.098
.94673E+07	171.866	111.039	109.971	108.907	193.274	193.258
.12623E+08	174.387	114.395	113.326	112.261	195.622	195.609
.15779E+08	176.371	117.103	116.033	114.973	197.438	197.427
.18935E+08	178.024	119.389	118.320	117.262	198.947	198.939
.22090E+08	179.418	121.354	120.286	119.231	200.207	200.201
.25246E+08	180.575	123.022	121.957	120.904	201.240	201.235
.28402E+08	181.579	124.498	123.435	122.386	202.128	202.122
.31558E+08	182.479	125.843	124.783	123.737	202.916	202.911
.63115E+08	187.894	134.489	133.458	132.444	207.466	207.465
.94673E+08	190.149	139.030	138.029	137.045	209.054	209.054
.12623E+09	191.303	141.973	140.999	140.042	209.664	209.664
.15779E+09	191.963	144.032	143.080	142.145	209.887	209.887
.18935E+09	191.941	145.522	144.598	143.690	209.374	209.373
.22090E+09	191.892	146.635	145.732	144.846	208.944	208.942
.25246E+09	191.746	147.571	146.689	145.822	208.439	208.436
.28402E+09	190.937	147.682	146.819	145.972	207.310	207.308
.31558E+09	190.262	147.732	146.885	146.053	206.381	206.379
.63115E+09	180.257	144.504	143.814	143.135	193.896	193.886
.94673E+09	169.385	138.553	137.981	137.417	181.162	181.144
.12623E+10	158.836	131.755	131.272	130.796	169.166	169.145
.15779E+10	149.648	125.759	125.349	124.943	158.749	158.723
.18935E+10	142.018	120.725	120.371	120.020	150.112	150.083
.22090E+10	135.605	116.484	116.175	115.867	142.859	142.829
.25246E+10	129.741	112.414	112.141	111.869	136.303	136.272
.28402E+10	125.112	109.241	108.997	108.753	131.119	131.087
.31558E+10	121.164	106.607	106.388	106.167	126.675	126.643
.63115E+10	101.715	93.0110	92.8914	92.7712	105.026	104.998
.94673E+10	94.3219	87.5384	87.4491	87.3591	96.9033	96.8790
.12623E+11	90.0946	84.4103	84.3373	84.2636	92.2609	92.2393
.15779E+11	87.0845	82.1363	82.0739	82.0107	88.9709	88.9514
.18935E+11	84.3297	79.9660	79.9119	79.8571	85.9957	85.9783
.22090E+11	82.0812	78.1671	78.1192	78.0709	83.5749	83.5592
.25246E+11	80.1403	76.6159	76.5733	76.5300	81.4866	81.4720
.28402E+11	78.4903	75.2765	75.2380	75.1992	79.7188	79.7051
.31558E+11	77.1032	74.1491	74.1141	74.0785	78.2334	78.2204

* Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i180

*** WARNING *** CP= 69140.690 TIME= 00:44:23
NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 13 ITEM= TEMP COMP= NAME= h01o180

VARIABLE 4 IS AT NODE 2 ITEM= TEMP COMP= NAME= s01o180

VARIABLE 5 IS AT NODE 390 ITEM= TEMP COMP= NAME= t01o180

VARIABLE 6 IS AT NODE 3759 ITEM= TEMP COMP= NAME= ts5i180

VARIABLE 7 IS AT NODE 636 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 8 IS AT NODE 516 ITEM= TEMP COMP= NAME= s05i180
 VARIABLE 9 IS AT NODE 520 ITEM= TEMP COMP= NAME= h05i180
 VARIABLE 10 IS AT NODE 524 ITEM= TEMP COMP= NAME= c05i180
 VARIABLE 11 IS AT NODE 528 ITEM= TEMP COMP= NAME= h05o180
 VARIABLE 12 IS AT NODE 517 ITEM= TEMP COMP= NAME= s05o180
 VARIABLE 13 IS AT NODE 680 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 14 IS AT NODE 872 ITEM= TEMP COMP= NAME= s03i180
 VARIABLE 15 IS AT NODE 876 ITEM= TEMP COMP= NAME= h03i180
 VARIABLE 16 IS AT NODE 880 ITEM= TEMP COMP= NAME= c03i180
 VARIABLE 17 IS AT NODE 883 ITEM= TEMP COMP= NAME= h03o180
 VARIABLE 18 IS AT NODE 873 ITEM= TEMP COMP= NAME= s03o180
 VARIABLE 19 IS AT NODE 1036 ITEM= TEMP COMP= NAME= t03o180
 VARIABLE 20 IS AT NODE 4105 ITEM= TEMP COMP= NAME= i03i180
 VARIABLE 21 IS AT NODE 3992 ITEM= TEMP COMP= NAME= i03o180
 VARIABLE 22 IS AT NODE 4679 ITEM= TEMP COMP= NAME= o03o180

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i180	79.87	.3156E+11	240.7	.9467E+08
3	NSOL	13 TEMP	h01o180	79.40	.3156E+11	234.2	.9467E+08
4	NSOL	2 TEMP	s01o180	78.28	.3156E+11	218.9	.1578E+09
5	NSOL	390 TEMP	t01o180	78.28	.3156E+11	218.9	.1578E+09
6	NSOL	3759 TEMP	ts5i180	78.28	.3156E+11	218.9	.1578E+09
7	NSOL	636 TEMP	t05i180	78.28	.3156E+11	218.9	.1578E+09
8	NSOL	516 TEMP	s05i180	78.28	.3156E+11	218.9	.1578E+09
9	NSOL	520 TEMP	h05i180	79.30	.3156E+11	232.4	.1262E+09
10	NSOL	524 TEMP	c05i180	79.72	.3156E+11	237.7	.9467E+08
11	NSOL	528 TEMP	h05o180	79.32	.3156E+11	232.0	.1262E+09
12	NSOL	517 TEMP	s05o180	78.43	.3156E+11	220.0	.1578E+09
13	NSOL	680 TEMP	t05i180	78.43	.3156E+11	219.9	.1578E+09
14	NSOL	872 TEMP	s03i180	78.43	.3156E+11	219.9	.1578E+09
15	NSOL	876 TEMP	h03i180	78.85	.3156E+11	223.5	.1262E+09
16	NSOL	880 TEMP	c03i180	78.76	.3156E+11	219.9	.1578E+09
17	NSOL	883 TEMP	h03o180	78.22	.3156E+11	210.7	.1578E+09
18	NSOL	873 TEMP	s03o180	76.59	.3156E+11	183.7	.2525E+09
19	NSOL	1036 TEMP	t03o180	76.58	.3156E+11	183.6	.2525E+09
20	NSOL	4105 TEMP	i03i180	28.07	.1000E-05	147.4	.3156E+09
21	NSOL	3992 TEMP	i03o180	27.38	.1000E-05	146.7	.3156E+09
22	NSOL	4679 TEMP	o03o180	26.14	.1000E-05	145.7	.3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i180	13 TEMP h01o180	2 TEMP s01o180	390 TEMP t01o180	3759 TEMP ts5i180	636 TEMP t05i180
.10000E-05	163.607	154.394	131.456	131.362	131.361	131.369
.20000E-05	197.052	188.811	168.425	168.334	168.334	168.341
31.558	197.052	188.811	168.426	168.334	168.334	168.341
.31558E+07	219.658	211.949	193.058	192.969	192.969	192.976
.63116E+07	224.788	217.230	198.724	198.636	198.636	198.643
.94673E+07	227.824	220.366	202.132	202.044	202.044	202.051
.12623E+08	230.040	222.661	204.641	204.553	204.553	204.561
.15779E+08	231.723	224.417	206.585	206.498	206.498	206.505
.18935E+08	233.102	225.857	208.186	208.100	208.100	208.107
.22090E+08	234.231	227.042	209.516	209.430	209.431	209.438
.25246E+08	235.139	228.000	210.604	210.519	210.519	210.526
.28402E+08	235.902	228.808	211.532	211.447	211.447	211.454
.31558E+08	236.566	229.516	212.352	212.267	212.267	212.274
.63115E+08	240.048	233.317	216.970	216.889	216.889	216.895
.94673E+08	240.706	234.203	218.436	218.357	218.357	218.364
.12623E+09	240.510	234.189	218.878	218.802	218.802	218.808
.15779E+09	240.069	233.892	218.940	218.866	218.866	218.872
.18935E+09	238.770	232.750	218.189	218.117	218.117	218.123
.22090E+09	237.725	231.826	217.569	217.498	217.498	217.504
.25246E+09	236.638	230.853	216.879	216.810	216.810	216.815
.28402E+09	234.957	229.270	215.538	215.470	215.470	215.476
.31558E+09	233.588	227.979	214.438	214.371	214.371	214.377
.63115E+09	216.767	211.907	200.199	200.143	200.143	200.148
.94673E+09	200.688	196.389	186.081	186.034	186.034	186.038
.12623E+10	186.027	182.190	173.001	172.960	172.960	172.963
.15779E+10	173.408	169.973	161.758	161.722	161.722	161.725
.18935E+10	163.043	159.942	152.533	152.502	152.502	152.505
.22090E+10	154.390	151.572	144.854	144.826	144.826	144.828
.25246E+10	146.659	144.084	137.956	137.931	137.931	137.933
.28402E+10	140.538	138.165	132.521	132.498	132.498	132.500
.31558E+10	135.268	133.078	127.874	127.853	127.853	127.855
.63115E+10	110.021	108.670	105.471	105.459	105.459	105.460
.94673E+10	100.765	99.6980	97.1790	97.1698	97.1698	97.1705
.12623E+11	95.4799	94.5804	92.4588	92.4510	92.4511	92.4517
.15779E+11	91.7612	90.9756	89.1234	89.1167	89.1167	89.1172
.18935E+11	88.4455	87.7499	86.1102	86.1044	86.1044	86.1048
.22090E+11	85.7644	85.1394	83.6668	83.6615	83.6615	83.6619
.25246E+11	83.4523	82.8880	81.5586	81.5539	81.5539	81.5543
.28402E+11	81.5066	80.9909	79.7765	79.7722	79.7722	79.7725
.31558E+11	79.8735	79.3984	78.2800	78.2761	78.2761	78.2764

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	516 TEMP s05i180	520 TEMP h05i180	524 TEMP c05i180	528 TEMP h05o180	517 TEMP s05o180	680 TEMP t05i180
.10000E-05	131.454	152.548	160.773	152.925	134.890	134.829
.20000E-05	168.423	186.975	194.148	187.045	171.067	171.007
31.558	168.423	186.975	194.147	187.045	171.068	171.007
.31558E+07	193.055	209.971	216.403	209.680	194.852	194.793
.63116E+07	198.721	215.257	221.528	214.915	200.389	200.329
.94673E+07	202.129	218.403	224.572	218.036	203.721	203.662
.12623E+08	204.637	220.707	226.795	220.322	206.169	206.111
.15779E+08	206.581	222.471	228.488	222.072	208.070	208.012
.18935E+08	208.183	223.918	229.876	223.508	209.632	209.574
.22090E+08	209.513	225.111	231.015	224.693	210.930	210.872
.25246E+08	210.600	226.076	231.932	225.650	211.988	211.931

.28402E+08	211.529	226.892	232.704	226.459	212.891	212.834
.31558E+08	212.348	227.607	233.378	227.169	213.688	213.631
.63115E+08	216.966	231.472	236.955	231.012	218.169	218.114
.94673E+08	218.432	232.413	237.699	231.954	219.564	219.511
.12623E+09	218.875	232.447	237.581	231.995	219.962	219.911
.15779E+09	218.937	232.188	237.203	231.744	219.994	219.943
.18935E+09	218.186	231.091	235.980	230.662	219.218	219.169
.22090E+09	217.566	230.204	234.995	229.786	218.580	218.532
.25246E+09	216.876	229.264	233.963	228.857	217.874	217.827
.28402E+09	215.535	227.714	232.339	227.324	216.531	216.485
.31558E+09	214.435	226.449	231.016	226.072	215.429	215.384
.63115E+09	200.197	210.628	214.627	210.375	201.170	201.133
.94673E+09	186.080	195.295	198.864	195.132	187.031	186.999
.12623E+10	173.000	181.245	184.461	181.151	173.926	173.899
.15779E+10	161.757	169.153	172.054	169.105	162.637	162.613
.18935E+10	152.533	159.220	161.854	159.200	153.359	153.338
.22090E+10	144.853	150.927	153.330	150.923	145.621	145.603
.25246E+10	137.956	143.503	145.706	143.513	138.674	138.658
.28402E+10	132.520	137.635	139.671	137.652	133.194	133.179
.31558E+10	127.873	132.593	134.476	132.616	128.503	128.489
.63115E+10	105.471	108.385	109.558	108.419	105.884	105.876
.94673E+10	97.1789	99.4770	100.406	99.5078	97.5087	97.5026
.12623E+11	92.4587	94.3954	95.1793	94.4227	92.7376	92.7325
.15779E+11	89.1233	90.8149	91.5001	90.8394	89.3672	89.3627
.18935E+11	86.1102	87.6087	88.2164	87.6314	86.3271	86.3232
.22090E+11	83.6667	85.0131	85.5595	85.0340	83.8620	83.8585
.25246E+11	81.5586	82.7744	83.2681	82.7936	81.7350	81.7319
.28402E+11	79.7764	80.8874	81.3387	80.9051	79.9377	79.9348
.31558E+11	78.2800	79.3033	79.7191	79.3196	78.4283	78.4257

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	872 TEMP s03i180	876 TEMP h03i180	880 TEMP c03i180	883 TEMP h03o180	873 TEMP s03o180	1036 TEMP t03o180
.10000E-05	134.840	142.923	140.702	129.269	92.4343	92.2897
.20000E-05	171.015	177.254	174.253	163.146	128.438	128.286
31.558	171.015	177.254	174.253	163.146	128.438	128.286
.31558E+07	194.797	199.879	196.346	185.424	152.115	151.959
.63116E+07	200.333	205.162	201.536	190.681	157.748	157.592
.94673E+07	203.665	208.341	204.676	193.883	161.260	161.104
.12623E+08	206.114	210.684	206.994	196.261	163.894	163.738
.15779E+08	208.015	212.483	208.776	198.105	165.978	165.823
.18935E+08	209.577	213.966	210.249	199.634	167.720	167.565
.22090E+08	210.875	215.196	211.472	200.912	169.196	169.041
.25246E+08	211.934	216.196	212.469	201.959	170.427	170.272
.28402E+08	212.836	217.046	213.317	202.857	171.498	171.344
.31558E+08	213.633	217.796	214.068	203.655	172.463	172.309
.63115E+08	218.116	221.966	218.284	208.252	178.367	178.217
.94673E+08	219.513	223.181	219.574	209.851	180.985	180.839
.12623E+09	219.912	223.454	219.924	210.460	182.431	182.290
.15779E+09	219.945	223.393	219.932	210.679	183.322	183.183
.18935E+09	219.170	222.532	219.162	210.153	183.557	183.422
.22090E+09	218.533	221.829	218.530	209.712	183.706	183.575
.25246E+09	217.828	221.063	217.834	209.195	183.746	183.617
.28402E+09	216.486	219.683	216.527	208.053	183.103	182.977
.31558E+09	215.385	218.552	215.455	207.112	182.559	182.435
.63115E+09	201.135	204.039	201.533	194.482	173.796	173.694
.94673E+09	187.001	189.703	187.661	181.616	163.830	163.745
.12623E+10	173.902	176.451	174.779	169.518	153.972	153.901
.15779E+10	162.616	165.011	163.634	159.029	145.368	145.307

.18935E+10	153.341	155.584	154.423	150.339	138.212	138.159
.22090E+10	145.605	147.689	146.691	143.041	132.193	132.146
.25246E+10	138.660	140.603	139.738	136.449	126.654	126.612
.28402E+10	133.181	135.001	134.237	131.237	122.287	122.250
.31558E+10	128.491	130.193	129.514	126.771	118.576	118.541
.63115E+10	105.877	106.999	106.662	105.044	100.175	100.156
.94673E+10	97.5038	98.4075	98.1624	96.9073	93.1249	93.1103
.12623E+11	92.7336	93.5039	93.3072	92.2588	89.0945	89.0825
.15779E+11	89.3637	90.0420	89.8762	88.9660	86.2158	86.2055
.18935E+11	86.3241	86.9305	86.7897	85.9887	83.5655	83.5564
.22090E+11	83.8593	84.4071	84.2838	83.5672	81.3971	81.3890
.25246E+11	81.7326	82.2302	82.1221	81.4779	79.5251	79.5179
.28402E+11	79.9355	80.3924	80.2960	79.7094	77.9299	77.9234
.31558E+11	78.4263	78.8489	78.7620	78.2234	76.5884	76.5824

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.860
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4105 TEMP i03i180	3992 TEMP i03o180	4679 TEMP o03o180
.10000E-05	28.0722	27.3828	26.1414
.20000E-05	71.2556	70.4659	69.1405
31.558	71.2556	70.4659	69.1405
.31558E+07	99.4123	98.5575	97.1372
.63116E+07	106.223	105.363	103.947
.94673E+07	110.624	109.762	108.355
.12623E+08	113.978	113.116	111.717
.15779E+08	116.685	115.823	114.434
.18935E+08	118.971	118.111	116.730
.22090E+08	120.937	120.079	118.705
.25246E+08	122.605	121.749	120.382
.28402E+08	124.079	123.225	121.865
.31558E+08	125.424	124.573	123.219
.63115E+08	134.076	133.251	131.951
.94673E+08	138.626	137.825	136.570
.12623E+09	141.579	140.799	139.583
.15779E+09	143.646	142.884	141.698
.18935E+09	145.143	144.403	143.252
.22090E+09	146.263	145.541	144.418
.25246E+09	147.204	146.498	145.401
.28402E+09	147.325	146.634	145.562
.31558E+09	147.382	146.705	145.651
.63115E+09	144.212	143.658	142.791
.94673E+09	138.303	137.842	137.113
.12623E+10	131.540	131.151	130.527
.15779E+10	125.571	125.239	124.700
.18935E+10	120.557	120.269	119.798
.22090E+10	116.331	116.079	115.662
.25246E+10	112.276	112.053	111.680
.28402E+10	109.114	108.914	108.576
.31558E+10	106.488	106.307	106.000
.63115E+10	92.9350	92.8356	92.6619
.94673E+10	87.4775	87.4030	87.2707
.12623E+11	84.3585	84.2973	84.1879
.15779E+11	82.0908	82.0383	81.9440
.18935E+11	79.9263	79.8807	79.7985
.22090E+11	78.1318	78.0913	78.0183
.25246E+11	76.5837	76.5477	76.4821
.28402E+11	75.2469	75.2143	75.1551
.31558E+11	74.1213	74.0916	74.0371

***** ROUTINE COMPLETED ***** CP = 69143.860

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21h.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 64
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```
*-----*
|
|               ANSYS RUN COMPLETED
|
|-----|
|
|      REV. 5.0 A                      HP 9000/7XX
|
| CP TIME      (sec) =      69148.070    TIME = 00:44:31
| ELAPSED TIME (sec) =      73748.000    DATE  = 06/13/95
|
|-----|
|
|
```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ucf21ss
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****
 WORK SPACE REQUESTED = 16777216 64.000 MB COMMAND LINE
 MINIMUM WORK SPACE REQUIRED = 4718592 18.000 MB
 MINIMUM WORK SPACE RECOMMENDED = 6702496 25.568 MB
 WORK SPACE OBTAINED = 16777214 64.000 MB
 BYTES PER WORD = 4

***** NOTICE ***** THIS IS THE ANSYS GENERAL PURPOSE
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 RESULTS SHOULD BE IMMEDIATELY BROUGHT TO OUR ATTENTION.

ENTER /SHOW,device TO SET THE GRAPHICS DISPLAY TO device(e.g. X11,4207,ETC.)
 ENTER /MENU,ON TO START THE ANSYS MENU SYSTEM
 ENTER HELP FOR GENERAL ANSYS HELP INFORMATION

1	/COM,	*****	
2	/COM,	ANSYS REVISION 5.0A	6/10/1995
3	/COM,	2-D Model of 125 ton burnup credit UCF-DC	Thomas L. Lotz
4	/COM,	*****	
5	/COM,	*	*
6	/COM,	* File name: ucf21x.inp	*
7	/COM,	* 21 PWR UCF with High T.L. Disposal Container	*
8	/COM,	* Helium Fill Gas	*
9	/COM,	*	*
10	/COM,	* Material Property file: props01.dat	*
11	/COM,	*	*
12	/COM,	* SNF Conductivity file: pwr15e.parm	*
13	/COM,	* 15x15 Mark-B4 PWR SNF Assembly	*
14	/COM,	*	*
15	/COM,	* SNF Heat Loads file: snf1048.dat	*
16	/COM,	* SNF Type: 10 years old, 48086 Mwd/MTU	*
17	/COM,	*	*
18	/COM,	* Surface Temp. file: c21x5a.parm	*

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19 /COM, *      100 MTU/acre (24.7 kgU/m^2) AML (High Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 22.5 m *
22 /COM, *      WP c/c spacing = 16.164 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM,      Read in average effective conductivities from SNF model
33 PARRES,CHANGE,pwr15e,parm,
34 /COM,      Read in surface temps. from repository model
35 PARRES,CHANGE,c21x5a,parm,
36 /COM, *****
37 /COM,
38 /COM,      Define Required Constants:
39 PI=3.141592654
40 /COM,
41 /COM,      Define UCF/waste package parameters
42 /COM,      (UCF dimensions converted from inches/cm/mm to meters were requi
43 /COM,      MIRAD = inner radius of UCF He Backfill shell (m) (NOT
44 /COM,      MWALL = UCF He Backfill shell thickness (m) (NOT
45 /COM,      DCRAD = disposal container outer radius (m)
46 /COM,      OWALL = outer barrier thickness (m)
47 /COM,      IWALL = inner barrier thickness (m)
48 /COM,      DCIRD = disposal container inner radius (m)
49 /COM,
50 /COM,      GCORN = corner guide width (m)
51 /COM,      GWALL = basket guide thickness (m)
52 /COM,      GLEN1 = side guide 1/3 width (m) (NOT USED)
53 /COM,      GLENT = side guide total width (m) (NOT USED)
54 /COM,
55 /COM,      HCELL = 1/2 of basket cell opening (m)
56 /COM,      SWALL = stainless tube thickness (m)
57 /COM,      TWALL = Aluminum thermal shunt thickness (m)
58 /COM,      AWALL = Al/boron tube thickness (m) (NOT USED)
59 /COM,
60 /COM,      ACTVL = active fuel length
61 /COM,      PEAKF = assembly heat axial peaking factor
62 /COM,
63 /COM,      MIRAD=1363.6/1000.0/2.0
64 /COM,      MWALL=1.0000*2.54/100.0
65 DCRAD=1.6290/2.0
66 OWALL=0.1000
67 IWALL=0.0200
68 DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 GCORN=233.5/1000.0
71 GWALL=9.5/1000.0
72 /COM,      GLEN1=9.6170*2.54/100.0
73 /COM,      GLENT=28.866*2.54/100.0
74 /COM,
75 HCELL=223.5/1000.0/2.0
76 SWALL=5.0/1000.0
77 TWALL=10.0/1000.0
78 /COM,      AWALL=0.2500*2.54/100.0
79 /COM,
80 ACTVL=141.8*2.54/100.0
81 PEAKF=1.25
82 /COM,      Define calculated parameters
83 /COM,      ASSY = assembly heat production (W) f(yrs)
84 /COM,      FUEL = volumetric heat production (W/m3) f(yrs)
85 /COM,      FVOLU = assy_volume=cell_width^2*active_length
86 /COM,
87 /COM,      PITCH = basket cell outer width (m)
88 /COM,      QCELL = 1/4 of basket cell opening (m)

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89 /COM,          SCCELL = 1/2 of basket cell opening+SS wall(m)
90 /COM,          ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)
91 /COM,
92 /COM,          GX## = x coord. of basket guide or thermal shunt/shell c
93 /COM,          GX## = y coord. of basket guide or thermal shunt/shell c
94 /COM,
95 /COM,          MI45 = x coord. MIRAD at 45 deg. (NOT USED)
96 /COM,          MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
97 /COM,          DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
98 /COM,          DM45 = x coord. DCRAD-OWALL at 45 deg.
99 /COM,          DO45 = x coord. DCRAD at 45 deg.
100 *SET,ASSY,
101 *DIM,ASSY, TABLE,101,1,
102 *DIM,FUEL, TABLE,101,1
103 FVOLUME=4*HCELL*HCELL*ACTVL
104 /COM,
105 PITCH=(HCELL+SWALL)*2.0
106 QCELL=HCELL/2.0
107 SCCELL=HCELL+SWALL
108 /COM,          ACELL=HCELL+SWALL+AWALL
109 /COM,
110 GX22=SCCELL
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=SCCELL+TWALL
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=PITCH+TWALL+SCCELL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 GX25=GX23+PITCH+GWALL
117 GY25=SQRT(DCIRD*DCIRD-GX25*GX25)
118 /COM,
119 /COM,          MI45=MIRAD/SQRT(2.0)
120 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
121 DI45=DCIRD/SQRT(2.0)
122 DM45=(DCRAD-OWALL)/SQRT(2.0)
123 DO45=DCRAD/SQRT(2.0)
124 /COM,
125 /COM,          Define Transient Time parameters based upon the following:
126 /COM,          Note: 1 year = 3.15576e7 seconds
127 /COM,          TM_START = start time (sec)
128 /COM,          TMI* = time increment for solution (sec)
129 /COM,          TME* = start and stop for time do-loops (sec)
130 /COM,          TMTMAX = time of maximum cladding temperature
131 /COM,
132 TM_START=(1.0E-6)*(3.15576E7)
133 TMI0=0.1*3.15576E7
134 TMI1=1.0*3.15576E7
135 TMI10=10.0*3.15576E7
136 TMI100=100.0*3.15576E7
137 TMI1000=1000.0*3.15576E7
138 TME0=0.9*3.15576E7+TM_START
139 TME1=TMI1+TM_START
140 TME9=9.0*3.15576E7+TM_START
141 TME10=TMI10+TM_START
142 TME50=50.0*3.15576E7+TM_START
143 TME90=90.0*3.15576E7+TM_START
144 TME100=TMI100+TM_START
145 TME1000=TMI1000+TM_START
146 /COM,
147 /COM,          *****
148 /COM,          Define different element types
149 /PREP7
150 ETYPE
151 ET, 1,55,
152 ET, 2,70,
153 ET, 7,32,
154 ET, 16,57,
155 ET, 17,32,
156 ET, 18,50,1,
157 ET, 19,31,
158 ET, 27,32,

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159 /COM, *****
160 /COM,      File props01.dat describes material properties
161 /COM,      and thier reference numbers
162 MPREAD,props01,dat,
163 /COM,      Read in single assembly heat loads
164 /COM,      Calculate the volumetric heat generation
165 /COM,      (Assembly time is in years, FUEL is in seconds)
166 /INPUT,snf1048,dat
167 *VFACT,3.15576E7,
168 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
169 *VFACT,(PEAKF/FVOLUME),
170 *VFUN,FUEL(1),COPY,ASSY(1),
171 FUEL(0,1)=1.0
172 /COM, *****
173 /COM,      Define new material 14 for SNF effective conductivity
174 /COM,      Density:      DENS      (kg/m^3)
175 /COM,      Conductivity: KXX      (W/m/K)
176 /COM,      Specific Heat: C      (J/kg/K)
177 MPTMP
178 MPTMP, 1, .00000E+00,
179 MPDATA,DENS,14, 1, .396004E+04,
180 MPDATA, C,14, 1, .27400E+03,
181 /COM,      Store average effective conductivities
182 IINC=1
183 TBSKT=25.0
184 MPTMP
185 MPTMP,IINC,TBSKT,
186 IINC=IINC+1
187 *DO,TBSKT,50.0,400.0,50.0,
188     MPTMP,IINC,TBSKT,
189     IINC=IINC+1
190 *ENDDO
191 IINC=1
192 TBSKT=25.0
193 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
194 IINC=IINC+1
195 *DO,TBSKT,50.0,400.0,50.0,
196     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
197     IINC=IINC+1
198 *ENDDO
199 /COM, *****
200 /COM,      Construct geometry for Disposal Container
201 /COM,
202 /COM,      Define center and axis keypoints for waste package
203 /COM,      Also, create placeholder keypoints and lines
204 /COM,      (K's 1,2,3,4,5,6,7,8)
205 /COM,      (L's 1,2,3,4)
206 K,1,0.0,0.0,0.0,
207 K,2,0.0,0.0,1.0,
208 K,3,0.0,0.0,1.3,
209 K,4,0.0,0.0,1.4,
210 K,5,0.0,0.0,1.5,
211 K,6,0.0,0.0,1.6,
212 K,7,0.0,0.0,1.7,
213 K,8,0.0,0.0,1.8,
214 L,3,4,
215 L,4,5,
216 L,5,6,
217 L,6,7,
218 /COM,      Define disposal container outer radius and material interface
219 /COM,      (K's 9,10,11,12,13,14)
220 /COM,      (L's 5,6,7,8,9,10,11)
221 /COM,      (A's 1,2)
222 K, 9,      0.0,      (0.0-DCRAD),0.0,
223 K,10,      DCRAD,      0.0,0.0,
224 K,11,      0.0,      DCRAD,0.0,
225 K,12,      0.0,      (OWALL-DCRAD),0.0,
226 K,13,      (DCRAD-OWALL),      0.0,0.0,
227 K,14,      0.0,      (DCRAD-OWALL),0.0,
228 L,10,13,

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229 LARC,10, 9,1,          DCRAD,
230 LARC,11,10,1,         DCRAD,
231 LARC,13,12,1,        (DCRAD-OWALL),
232 LARC,14,13,1,        (DCRAD-OWALL),
233 L,11,14,
234 L, 9,12,
235 AL, 5, 6,11, 8,
236 AL,10, 7, 5, 9,
237 /COM, *****
238 /COM,          Define UCF shell inner edge and area
239 /COM,          (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
240 /COM,          ( 31,32,33)
241 /COM,          (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
242 /COM,          ( 28,29,30,31,32)
243 /COM,          (A's 3,4)
244 K,15, 0.0,          DCIRD,0.0,
245 K,16, GX22,          GY22,0.0,
246 K,17, GX23,          GY23,0.0,
247 K,18, GX24,          GY24,0.0,
248 K,19, GX25,          GY25,0.0,
249 K,20, GY25,          GX25,0.0,
250 K,21, GY24,          GX24,0.0,
251 K,22, GY23,          GX23,0.0,
252 K,23, GY22,          GX22,0.0,
253 K,24,DCIRD,          0.0,0.0,
254 K,25, GY22, (0.0-GX22),0.0,
255 K,26, GY23, (0.0-GX23),0.0,
256 K,27, GY24, (0.0-GX24),0.0,
257 K,28, GY25, (0.0-GX25),0.0,
258 K,29, GX25, (0.0-GY25),0.0,
259 K,30, GX24, (0.0-GY24),0.0,
260 K,31, GX23, (0.0-GY23),0.0,
261 K,32, GX22, (0.0-GY22),0.0,
262 K,33, 0.0,(0.0-DCIRD),0.0,
263 L,14,15,
264 LARC,16,15,1,DCIRD,
265 LARC,17,16,1,DCIRD,
266 LARC,18,17,1,DCIRD,
267 LARC,19,18,1,DCIRD,
268 LARC,20,19,1,DCIRD,
269 LARC,21,20,1,DCIRD,
270 LARC,22,21,1,DCIRD,
271 LARC,23,22,1,DCIRD,
272 LARC,24,23,1,DCIRD,
273 LARC,25,24,1,DCIRD,
274 LARC,26,25,1,DCIRD,
275 LARC,27,26,1,DCIRD,
276 LARC,28,27,1,DCIRD,
277 LARC,29,28,1,DCIRD,
278 LARC,30,29,1,DCIRD,
279 LARC,31,30,1,DCIRD,
280 LARC,32,31,1,DCIRD,
281 LARC,33,32,1,DCIRD,
282 L,33,12,
283 L,24,13,
284 LSEL,S,LINE,,12,21,
285 LSEL,A,LINE,, 9,
286 LSEL,A,LINE,,32,
287 AL,ALL,
288 LSEL,S,LINE,,22,31,
289 LSEL,A,LINE,, 8,
290 LSEL,A,LINE,,32,
291 AL,ALL,
292 LSEL,ALL,
293 /COM, *****
294 /COM,          Define tube guides
295 /COM,          (K's 34,35,36,37)
296 /COM,          (L's 33,34,35,36,37,38,39,40,41,42)
297 /COM,          (A's 5,6,7,8,9,10)
298 /COM,

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299 /COM,          top guide
300 K,34,          GX24,          GX24,0.0,
301 K,35,          GX25,          GX25,0.0,
302 L,19,35,
303 L,35,20,
304 L,21,34,
305 L,34,18,
306 /COM,          bottom guide
307 K,36,          GX25, (0.0-GX25),0.0,
308 K,37,          GX24, (0.0-GX24),0.0,
309 L,28,36,
310 L,36,29,
311 L,30,37,
312 L,37,27,
313 L,34,35,
314 L,37,36,
315 /COM, Guide gaps
316 AL,17,33,34,
317 AL,26,37,38,
318 /COM, Guide steel
319 AL,16,33,41,36,
320 AL,18,35,41,34,
321 AL,25,37,42,40,
322 AL,27,39,42,38,
323 /COM, *****
324 /COM, Define thermal shunts
325 /COM, (K's 38,39,40,41,42,43,44,45,46,47,48,49,50)
326 /COM, ( 51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)
327 /COM, (L's 43,44,45,46,47,48,49)
328 /COM, ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)
329 /COM, ( 67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)
330 /COM, ( 84,85,86,87,88,89,90)
331 /COM, (A's 11 - 27)
332 /COM,
333 /COM, top horizontal thermal shunt
334 K,38,          0.0,          SCELL,0.0,
335 K,39,          0.0,          (SCELL+TWALL),0.0,
336 K,40,          SCELL,          SCELL,0.0,
337 K,41,          SCELL,          (SCELL+TWALL),0.0,
338 K,42,          (SCELL+TWALL), SCELL,0.0,
339 K,43,          (SCELL+TWALL), (SCELL+TWALL),0.0,
340 K,44,(SCELL+TWALL+1.0*PITCH), SCELL,0.0,
341 K,45,(SCELL+TWALL+1.0*PITCH), (SCELL+TWALL),0.0,
342 K,46,(SCELL+TWALL+2.0*PITCH), SCELL,0.0,
343 K,47,(SCELL+TWALL+2.0*PITCH), (SCELL+TWALL),0.0,
344 /COM, bottom horizontal thermal shunt
345 K,48,          0.0,          (0.0-SCELL),0.0,
346 K,49,          0.0,          (0.0-SCELL-TWALL),0.0,
347 K,50,          SCELL,          (0.0-SCELL),0.0,
348 K,51,          SCELL,          (0.0-SCELL-TWALL),0.0,
349 K,52,          (SCELL+TWALL), (0.0-SCELL),0.0,
350 K,53,          (SCELL+TWALL), (0.0-SCELL-TWALL),0.0,
351 K,54,(SCELL+TWALL+1.0*PITCH), (0.0-SCELL),0.0,
352 K,55,(SCELL+TWALL+1.0*PITCH), (0.0-SCELL-TWALL),0.0,
353 K,56,(SCELL+TWALL+2.0*PITCH), (0.0-SCELL),0.0,
354 K,57,(SCELL+TWALL+2.0*PITCH), (0.0-SCELL-TWALL),0.0,
355 /COM, right vertical thermal shunt
356 K,58,          SCELL,          (SCELL+TWALL+2.0*PITCH),0.0,
357 K,59,          (SCELL+TWALL), (SCELL+TWALL+2.0*PITCH),0.0,
358 K,60,          SCELL,          (SCELL+TWALL+1.0*PITCH),0.0,
359 K,61,          (SCELL+TWALL), (SCELL+TWALL+1.0*PITCH),0.0,
360 K,62,          SCELL,(0.0-SCELL-TWALL-1.0*PITCH),0.0,
361 K,63,          (SCELL+TWALL),(0.0-SCELL-TWALL-1.0*PITCH),0.0,
362 K,64,          SCELL,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
363 K,65,          (SCELL+TWALL),(0.0-SCELL-TWALL-2.0*PITCH),0.0,
364 /COM, Lines; shunt widths, top, bottom, then vertical: (43-60)
365 L,38,39,
366 L,40,41,
367 L,42,43,
368 L,44,45,

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369 L,46,47,
370 L,48,49,
371 L,50,51,
372 L,52,53,
373 L,54,55,
374 L,56,57,
375 L,58,59,
376 L,60,61,
377 L,41,43,
378 L,40,42,
379 L,50,52,
380 L,51,53,
381 L,62,63,
382 L,64,65,
383 /COM, Lines; shunt edges, top, bottom, then vertical: (61-90)
384 L,39,41,
385 L,40,38,
386 L,43,45,
387 L,44,42,
388 L,45,47,
389 L,46,44,
390 L,47,22,
391 L,23,46,
392 L,48,50,
393 L,51,49,
394 L,52,54,
395 L,55,53,
396 L,54,56,
397 L,57,55,
398 L,56,25,
399 L,26,57,
400 L,58,16,
401 L,17,59,
402 L,60,58,
403 L,59,61,
404 L,41,60,
405 L,61,43,
406 L,50,40,
407 L,42,52,
408 L,62,51,
409 L,53,63,
410 L,64,62,
411 L,63,65,
412 L,32,64,
413 L,65,31,
414 /COM, define areas for thermal shunts
415 AL,43,61,44,62,
416 AL,44,55,45,56,
417 AL,45,63,46,64,
418 AL,46,65,47,66,
419 AL,47,67,20,68,
420 AL,48,69,49,70,
421 AL,49,57,50,58,
422 AL,50,71,51,72,
423 AL,51,73,52,74,
424 AL,52,75,23,76,
425 AL,14,77,53,78,
426 AL,53,79,54,80,
427 AL,54,81,55,82,
428 AL,56,83,57,84,
429 AL,58,85,59,86,
430 AL,59,87,60,88,
431 AL,60,89,29,90,
432 /COM, *****
433 /COM, Define shell gaps at the exterior of the tube array
434 /COM, (K's 66 - 67)
435 /COM, (L's 91 - 99)
436 /COM, (A's 28 - 34)
437 /COM,
438 K,66, 0.0, (SCCELL+TWALL+2.0*PITCH),0.0,

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439 K,67,          0.0,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
440 /COM,
441 L,15,66,
442 L,66,58,
443 L,59,18,
444 L,21,47,
445 L,46,56,
446 L,57,27,
447 L,30,65,
448 L,64,67,
449 L,67,33,
450 /COM,
451 AL,13,91,92,77,
452 AL,15,78,93,
453 AL,19,94,67,
454 AL,21,68,95,75,22,
455 AL,24,76,96,
456 AL,28,97,90,
457 AL,30,89,98,99,
458 /COM, *****
459 /COM,          Define center half-tube
460 /COM,          (K's 68-75)
461 /COM,          (L's 100-110)
462 /COM,          (A's 35-38)
463 K,68,          0.0,          HCELL,0.0,
464 K,69,          HCELL,          HCELL,0.0,
465 K,70,          0.0,          (0.0-HCELL),0.0,
466 K,71,          HCELL,          (0.0-HCELL),0.0,
467 K,72,          0.0,          SCELL,0.0,
468 K,73,          SCELL,          SCELL,0.0,
469 K,74,          0.0,          (0.0-SCELL),0.0,
470 K,75,          SCELL,          (0.0-SCELL),0.0,
471 L,70,68,
472 L,70,74,
473 L,68,72,
474 L,71,75,
475 L,69,73,
476 L,75,74,
477 L,71,70,
478 L,68,69,
479 L,72,73,
480 L,69,71,
481 L,73,75,
482 AL,100,106,109,107,
483 AL,101,105,103,106,
484 AL,109,103,110,104,
485 AL,102,107,104,108,
486 /COM, *****
487 /COM,          Define center full-tube
488 /COM,          (K's 76 - 83)
489 /COM,          (L's 111 - 122)
490 /COM,          (A's 39 - 43)
491 K,76,          (PITCH+TWALL-HCELL),          HCELL,0.0,
492 K,77,          (PITCH+TWALL+HCELL),          HCELL,0.0,
493 K,78,          (PITCH+TWALL-HCELL),          (0.0-HCELL),0.0,
494 K,79,          (PITCH+TWALL+HCELL),          (0.0-HCELL),0.0,
495 K,80,          (PITCH+TWALL-SCELL),          SCELL,0.0,
496 K,81,          (PITCH+TWALL+SCELL),          SCELL,0.0,
497 K,82,          (PITCH+TWALL-SCELL),          (0.0-SCELL),0.0,
498 K,83,          (PITCH+TWALL+SCELL),          (0.0-SCELL),0.0,
499 L,78,82,
500 L,76,80,
501 L,79,83,
502 L,77,81,
503 L,83,82,
504 L,79,78,
505 L,76,77,
506 L,80,81,
507 L,82,80,
508 L,78,76,

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509 L,77,79,
510 L,81,83,
511 AL,120,116,121,117,
512 AL,119,111,120,112,
513 AL,111,115,113,116,
514 AL,121,113,122,114,
515 AL,112,117,114,118,
516 /COM, *****
517 /COM,          Set element shapes and sizes for tubes
518 /COM,          14x14 mesh in fuel with 2
519 /COM,          divisions per tube layer
520 ESHAPE,2,
521 ESIZE,,1,
522 LSEL,S,LINE,,115,122,1,
523 LSEL,A,LINE,,109,110,1,
524 LSEL,A,LINE,,100,
525 LESIZE,ALL,,, 14,
526 LSEL,S,LINE,,105,108,1,
527 LESIZE,ALL,,, 7,
528 LSEL,S,LINE,,101,104,1,
529 LSEL,A,LINE,,111,114,1,
530 LESIZE,ALL,,, 2,
531 LSEL,ALL,
532 /COM,
533 /COM,          Mesh areas
534 /COM,          first fuel, then stainless tubes
535 MAT,14,
536 TYPE,1,
537 AMESH,35,
538 AMESH,39,
539 MAT, 1,
540 TYPE,1,
541 AMESH,36,38,1,
542 AMESH,40,43,1,
543 /COM, *****
544 /COM,          Copy tube mesh
545 /COM,
546 /COM,          center half tube above and below
547 /COM,          (A's 44 - 47)
548 AGEN,2,35,38,1,0.0,(PITCH+TWALL),0.0,0,0,
549 /COM,          (A's 48 - 51)
550 AGEN,2,35,38,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
551 /COM,          (A's 52 - 55)
552 AGEN,2,35,38,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
553 /COM,          (A's 56 - 59)
554 AGEN,2,35,38,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
555 /COM,
556 /COM,          center full tube side, above, and below
557 /COM,          (A's 60 - 64 = Side)
558 AGEN,2,39,43,1,PITCH,0.0,0.0,0,0,
559 /COM,          (A's 65 - 69 = up 1)
560 AGEN,2,39,43,1,0.0,(PITCH+TWALL),0.0,0,0,
561 /COM,          (A's 70 - 74 = up 2)
562 AGEN,2,39,43,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
563 /COM,          (A's 75 - 79 = down 1)
564 AGEN,2,39,43,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
565 /COM,          (A's 80 - 84 = down 2)
566 AGEN,2,39,43,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
567 /COM,          center full tube get corners
568 /COM,          (A's 85 - 89 = up corner)
569 AGEN,2,60,64,1,0.0,(PITCH+TWALL),0.0,0,0,
570 /COM,          (A's 90 - 94 = down corner)
571 AGEN,2,60,64,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
572 /COM,
573 NUMMRG,NODE,
574 NUMMRG,KP,
575 /COM, *****
576 /COM,          Create mesh in tube guides, thermal shunts
577 /COM,          Set mesh size for gaps.....
578 ESIZE,,2,

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579 LSEL,S,LINE,,41,60,1,
580 LSEL,A,LINE,,14,20,2,
581 LSEL,A,LINE,,23,29,2,
582 LESIZE,ALL,,, 2,
583 LSEL,S,LINE,,61,62,1,
584 LSEL,A,LINE,,69,70,1,
585 LSEL,A,LINE,,91,92,1,
586 LSEL,A,LINE,,98,99,1,
587 LSEL,A,LINE,,21,22,1,
588 LSEL,A,LINE,,77,78,1,
589 LSEL,A,LINE,,89,90,1,
590 LSEL,A,LINE,,67,68,1,
591 LSEL,A,LINE,,75,76,1,
592 LSEL,A,LINE,,13,
593 LSEL,A,LINE,,30,
594 LESIZE,ALL,,, 7,
595 LSEL,S,LINE,,63,66,1,
596 LSEL,A,LINE,,71,74,1,
597 LSEL,A,LINE,,79,88,1,
598 LSEL,A,LINE,,33,40,1,
599 LSEL,A,LINE,,93,97,1,
600 LSEL,A,LINE,,15,19,2,
601 LSEL,A,LINE,,24,28,2,
602 LESIZE,ALL,,, 14,
603 /COM, MESH CORNER GUIDES
604 ESHAPE,2,
605 ESIZE,,1,
606 MAT,2,
607 TYPE,1,
608 AMESH, 7,10,1,
609 /COM, MESH THERMAL SHUNTS
610 ESHAPE,2,
611 ESIZE,,1,
612 MAT,1,
613 TYPE,1,
614 AMESH,11,27,1,
615 /COM, *****
616 /COM, Create mesh in UCF inner shell
617 /COM, (L's 105,108)
618 LSEL,S,LINE,,13,21,1,
619 LCCAT,ALL,
620 LSEL,S,LINE,,22,30,1,
621 LCCAT,ALL,
622 LSEL,ALL,
623 LESIZE,8,,,64,
624 LESIZE,9,,,64,
625 LESIZE,12,,, 3,
626 LESIZE,31,,, 3,
627 MAT,2,
628 TYPE,1,
629 AMESH,3,4,1
630 /COM, Delete concatenated lines
631 /COM, (L's freed up 105,108)
632 /COM, LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
633 /COM,
634 LSEL,S,LINE,,6,7,1,
635 LESIZE,ALL,,,64,
636 LSEL,ALL,
637 LESIZE, 5,,, 3,
638 LESIZE,10,,, 3,
639 LESIZE,11,,, 3,
640 MAT,3,
641 TYPE,1,
642 AMESH,1,2,1,
643 NUMMRG,NODE,
644 NUMMRG,KP,
645 /COM, *****
646 /COM, Create mesh in empty basket spaces
647 ESIZE,0.1,
648 ESHAPE,0,

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649 MAT,7,
650 TYPE,1,
651 AMESH, 5, 6,1,
652 AMESH,28,34,1,
653 NUMMRG,NODE,
654 NUMMRG,KP,
655 /COM, *****
656 /COM,          Create radiation surface elements
657 /COM,          Basket spaces
658 MAT,2,
659 TYPE,17,
660 LMESH,13,21,2,
661 LMESH,22,30,2,
662 LMESH,33,34,1,
663 LMESH,37,38,1,
664 MAT,1,
665 TYPE,17,
666 LMESH,92,98,1,
667 MAT,1,
668 TYPE,17,
669 LMESH,67,68,1,
670 LMESH,75,78,1,
671 LMESH,89,90,1,
672 /COM,
673 FINISH
674 /COM, *****
675 /COM,          Create element mesh plots to illustrate model
676 /COM,          View mesh for entire model
677 /RESET
678 /TRIAD,OFF,
679 /NUM, 1,
680 /PNUM,MAT, 1,
681 /TYPE,HIDP,
682 /GLINE,,0,
683 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
684 /TITLE, 21 PWR UCF/Waste Package - 1/2 FEM Model
685 /SHOW,meshfull,grph,1,8,
686 EPLOT
687 ESEL,U,MAT,, 7,
688 /SHOW,meshgap,grph,1,8,
689 EPLOT
690 /COM,          View mesh for radiation substructure
691 /PNUM,MAT, 0,
692 /PNUM,TYPE, 1,
693 ESEL,S,TYPE,,17,
694 /TITLE, 21 PWR UCF/Waste Package - Radiation Matrix
695 /SHOW,meshrad,grph,1,8,
696 EPLOT
697 ESEL,ALL,
698 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
699 /COM, *****
700 /COM,          Generate super-elements
701 /AUX12,
702 ESEL,S,TYPE,,17,
703 NSLE,S,
704 STEF,5.67E-8,
705 GEOM,1,0,
706 VTYPE,0,800,
707 WRITE,spaces,
708 ESEL,ALL,
709 NSEL,ALL,
710 FINISH
711 /PREP7,
712 TYPE,18,
713 SE,spaces,
714 /COM,          Delete radiation edge elements
715 LSEL,S,TYPE,,17,
716 LCLEAR,ALL,
717 LSEL,ALL,
718 FINISH

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719 /COM, *****
720 /COM,      Set solution parameters and apply B.C.'s
721 /COM,
722 /COM,      Solve steady-state for initial conditions
723 /COM,      with WP surface equal to drift ambient
724 /COM,      temperature from repository model.
725 /SOLU
726 ANTYPE,TRAN,NEW,
727 NROPT,AUTO,
728 TRNOPT,FULL,
729 TOFFST,273.15,
730 LSEL,S,LINE,,6,
731 LSEL,A,LINE,,7,
732 NSLL,S,1,
733 D,ALL,TEMP,DFAMBT,
734 LSEL,ALL,
735 NSEL,ALL,
736 ASEL,S,MAT,,14,
737 ESLA,S,
738 BFE,ALL,HGEN,,(FUEL(TM_START)),
739 ASEL,ALL,
740 ESEL,ALL,
741 TIMINT,OFF,
742 TIME,1e-6,
743 AUTOTS,ON,
744 KBC,0,
745 SOLVE
746 /COM,      Solve steady-state for initial conditions
747 /COM,      with WP surface temperatures from repository
748 /COM,      steady-state solution.
749 LSEL,S,LINE,,6,
750 LSEL,A,LINE,,7,
751 NSLL,S,1,
752 DDELE,ALL,TEMP,
753 LSEL,ALL,
754 NSEL,ALL,
755 DK,11,TEMP,(WPTOP(TM_START)),,1,
756 DK,10,TEMP,(WPSID(TM_START)),,1,
757 DK, 9,TEMP,(WPBOT(TM_START)),,1,
758 ASEL,S,MAT,,14,
759 ESLA,S,
760 BFE,ALL,HGEN,,(FUEL(TM_START)),
761 ASEL,ALL,
762 ESEL,ALL,
763 TIMINT,OFF,
764 TIME,2e-6,
765 AUTOTS,ON,
766 KBC,0,
767 SOLVE
768 /COM, *****
769 /COM,      Set time integration parameters
770 TIMINT,ON,
771 AUTOTS,ON,
772 /COM,      Time substep ranges from 10 sec to 1/4 loadstep
773 NSUBST,10,40,5,ON
774 /COM,      Begin Transient
775 /COM,      Apply loads and solve for 0 to .9 years
776 *DO,TM,TM_START,TMEO,TMIO
777     TIME,TM,
778     ASEL,S,MAT,,14,
779     ESLA,S,
780     BFE,ALL,HGEN,,(FUEL(TM)),
781     ASEL,ALL
782     ESEL,ALL
783     DK,11,TEMP,(WPTOP(TM)),,1,
784     DK,10,TEMP,(WPSID(TM)),,1,
785     DK, 9,TEMP,(WPBOT(TM)),,1,
786     SOLVE
787 *ENDDO
788 /COM,      Apply loads and solve for 1 to 9 years

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789 *DO,TM,TME1,TME9,TM1
790     TIME,TM,
791     ASEL,S,MAT,,14,
792     ESLA,S,
793     BFE,ALL,HGEN,,(FUEL(TM)),
794     ASEL,ALL
795     ESEL,ALL
796     DK,11,TEMP,(WPTOP(TM)),,1,
797     DK,10,TEMP,(WPSID(TM)),,1,
798     DK, 9,TEMP,(WPBOT(TM)),,1,
799     SOLVE
800 *ENDDO
801 /COM,          Apply loads and solve for 10 to 90 years
802 *DO,TM,TME10,TME90,TM110
803     TIME,TM,
804     ASEL,S,MAT,,14,
805     ESLA,S,
806     BFE,ALL,HGEN,,(FUEL(TM)),
807     ASEL,ALL
808     ESEL,ALL
809     DK,11,TEMP,(WPTOP(TM)),,1,
810     DK,10,TEMP,(WPSID(TM)),,1,
811     DK, 9,TEMP,(WPBOT(TM)),,1,
812     SOLVE
813 *ENDDO
814 /COM,          Apply loads and solve for 100 to 1000 years
815 *DO,TM,TME100,TME1000,TM1100
816     TIME,TM,
817     ASEL,S,MAT,,14,
818     ESLA,S,
819     BFE,ALL,HGEN,,(FUEL(TM)),
820     ASEL,ALL
821     ESEL,ALL
822     DK,11,TEMP,(WPTOP(TM)),,1,
823     DK,10,TEMP,(WPSID(TM)),,1,
824     DK, 9,TEMP,(WPBOT(TM)),,1,
825     SOLVE
826 *ENDDO
827 FINISH
828 SAVE,
829 /COM, *****
830 /COM,          Create element contour plots of solution results
831 /COM,
832 /COM,          Sort through solution results for time of max temp.
833 /POST26,
834 NSOL,2,(NODE(0.0,0.0,0.0)),TEMP,,peakclad,
835 STORE,NEW,
836 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
837 FINISH
838 /POST1,
839 /COM,          Create temperature contour plots of WP at peak
840 /RESET
841 /TRIAD,OFF,
842 /NUM, 1,
843 /PNUM,MAT, 1,
844 /TYPE,HIDP,
845 /GLINE,-1,
846 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
847 ESEL,U,MAT,,7,
848 SET,NEAR,,,,TMTMAX,
849 /TITLE, 21 PWR UCF/WP at Time of Peak Temp. (XTMTMAX/3.15576E7% years)
850 /SHOW,solupk,grph,0,8,
851 /CONTOUR,1,128,AUTO,
852 PLNSOL,TEMP,
853 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
854 SET,NEAR,,,,TME10,
855 /TITLE, 21 PWR UCF/WP at 10 years
856 /SHOW,solu10,grph,0,8,
857 /CONTOUR,1,128,USER,
858 PLNSOL,TEMP,

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859 SET,NEAR,,,,TME50,
860 /TITLE, 21 PWR UCF/WP at 50 years
861 /SHOW,solu50,grph,0,8,
862 /CONTOUR,1,128,USER,
863 PLNSOL,TEMP,
864 SET,NEAR,,,,TME100,
865 /TITLE, 21 PWR UCF/WP at 100 years
866 /SHOW,solu100,grph,0,8,
867 /CONTOUR,1,128,USER,
868 PLNSOL,TEMP,
869 ESEL,ALL,
870 FINISH
871 /COM, *****
872 /COM,      Print time/temperature output at specific locations
873 /COM,      Save profile from center to edge
874 /COM,
875 /COM,      Variable Legend: A01i000
876 /COM,      c = center of assembly
877 /COM,      h = halfway between center and tube
878 /COM,      s = inside structural stainless tube layer
879 /COM,      t = stainless tube cladding
880 /COM,      g = tube guide
881 /COM,      i = inner barrier of DC
882 /COM,      o = outer barrier of DC
883 /COM,      ## = ID number of assembly (01 is center)
884 /COM,      i = side of assembly toward center of WP
885 /COM,      o = side of assembly toward edge of WP
886 /COM,      000 = profile center down
887 /COM,      045 = profile 45 deg down
888 /COM,      090 = profile center side
889 /COM,      135 = profile 45 deg up
890 /COM,      180 = profile center up
891 /POST26,
892 NUMVAR,30,
893 /COM,
894 /COM, *****
895 /COM, * Temperature Profile from center to bottom of WP (0 deg.) *
896 /COM, *****
897 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,c01i000,
898 NSOL, 3,(NODE(0.0, (0.0-QCELL),0.0)),TEMP,,h01o000,
899 NSOL, 4,(NODE(0.0, (0.0-HCELL),0.0)),TEMP,,s01o000,
900 NSOL, 5,(NODE(0.0, (0.0-SCCELL),0.0)),TEMP,,t01o000,
901 NSOL, 6,(NODE(0.0, (0.0-SCCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o000,
902 NSOL, 7,(NODE(0.0, (SCCELL-(PITCH+TWALL)),0.0)),TEMP,,t06i000,
903 NSOL, 8,(NODE(0.0, (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s06i000,
904 NSOL, 9,(NODE(0.0, (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h06i000,
905 NSOL,10,(NODE(0.0, ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c06i000,
906 NSOL,11,(NODE(0.0, ((-1.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h06o000,
907 NSOL,12,(NODE(0.0, ((-1.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s06o000,
908 NSOL,13,(NODE(0.0, (SCCELL-2.0*PITCH-TWALL),0.0)),TEMP,,t13i000,
909 NSOL,14,(NODE(0.0, (HCELL-2.0*PITCH-TWALL),0.0)),TEMP,,s13i000,
910 NSOL,15,(NODE(0.0, (QCELL-2.0*PITCH-TWALL),0.0)),TEMP,,h13i000,
911 NSOL,16,(NODE(0.0, (-2.0*PITCH-TWALL),0.0)),TEMP,,c13i000,
912 NSOL,17,(NODE(0.0, ((-2.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h13o000,
913 NSOL,18,(NODE(0.0, ((-2.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s13o000,
914 NSOL,19,(NODE(0.0, ((-2.0*PITCH)-TWALL-SCCELL),0.0)),TEMP,,t13o000,
915 NSOL,20,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i13i000,
916 NSOL,21,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i13o000,
917 NSOL,22,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o13o000,
918 PRVAR, 2, 3, 4, 5, 6, 7,
919 PRVAR, 8, 9,10,11,12,13,
920 PRVAR,14,15,16,17,18,19,
921 PRVAR,20,21,22,
922 /COM,
923 /COM, *****
924 /COM, * Temperature Profile from center to lower right (45 deg.) *
925 /COM, *****
926 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,c01i045,
927 NSOL, 3,(NODE( QCELL, (0.0-QCELL),0.0)),TEMP,,h01o045,
928 NSOL, 4,(NODE( HCELL, (0.0-HCELL),0.0)),TEMP,,s01o045,

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929 NSOL, 5, (NODE(          SCELL,          (0.0-SCELL),0.0)),TEMP,,t01o045,
930 NSOL, 6, (NODE( (SCELL+0.5*TWALL),(0.0-SCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o045,
931 NSOL, 7, (NODE((PITCH+TWALL-SCELL), (SCELL-(PITCH+TWALL)),0.0)),TEMP,,t08i045,
932 NSOL, 8, (NODE((PITCH+TWALL-HCELL), (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s08i045,
933 NSOL, 9, (NODE((PITCH+TWALL-QCELL), (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h08i045,
934 NSOL,10, (NODE( (1.0*PITCH+TWALL), ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c08i045,
935 NSOL,11, (NODE((PITCH+TWALL+QCELL),(0.0-PITCH-TWALL-QCELL),0.0)),TEMP,,h08o045,
936 NSOL,12, (NODE((PITCH+TWALL+HCELL),(0.0-PITCH-TWALL-HCELL),0.0)),TEMP,,s08o045,
937 NSOL,13, (NODE(          GX24,          (0.0-GX24),0.0)),TEMP,,g08i045,
938 NSOL,14, (NODE(          GX25,          (0.0-GX25),0.0)),TEMP,,g08o045,
939 NSOL,15, (NODE(          DI45,          (-1.0*DI45),0.0)),TEMP,,i08i045,
940 NSOL,16, (NODE(          DM45,          (-1.0*DM45),0.0)),TEMP,,i08o045,
941 NSOL,17, (NODE(          DO45,          (-1.0*DO45),0.0)),TEMP,,o08o045,
942 /COM,          Add centers of assemblies 11 and 12
943 NSOL,18, (NODE( (2.0*PITCH+TWALL), (-1.0*PITCH-TWALL),0.0)),TEMP,,c11i045,
944 NSOL,19, (NODE(          (PITCH+TWALL), (-2.0*PITCH-TWALL),0.0)),TEMP,,c12i045,
945 PRVAR, 2, 3, 4, 5, 6, 7,
946 PRVAR, 8, 9,10,11,12,13,
947 PRVAR,14,15,16,17,18,19,
948 /COM,
949 /COM, *****
950 /COM, * Temperature Profile from center to side of WP (90 deg.) *
951 /COM, *****
952 NSOL, 2, (NODE(          0.0,0.0,0.0)),TEMP,,c01i090,
953 NSOL, 3, (NODE(          QCELL,0.0,0.0)),TEMP,,h01o090,
954 NSOL, 4, (NODE(          HCELL,0.0,0.0)),TEMP,,s01o090,
955 NSOL, 5, (NODE(          SCELL,0.0,0.0)),TEMP,,t01o090,
956 NSOL, 6, (NODE( (SCELL+0.5*TWALL),0.0,0.0)),TEMP,,ts1o090,
957 NSOL, 7, (NODE( (PITCH+TWALL-SCELL),0.0,0.0)),TEMP,,t02i090,
958 NSOL, 8, (NODE( (PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s02i090,
959 NSOL, 9, (NODE( (PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h02i090,
960 NSOL,10, (NODE( (PITCH+TWALL),0.0,0.0)),TEMP,,c02i090,
961 NSOL,11, (NODE( (PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h02o090,
962 NSOL,12, (NODE( (PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s02o090,
963 NSOL,13, (NODE( (PITCH+TWALL+SCELL),0.0,0.0)),TEMP,,t02i090,
964 NSOL,14, (NODE((2.0*PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s04i090,
965 NSOL,15, (NODE((2.0*PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h04i090,
966 NSOL,16, (NODE( (2.0*PITCH+TWALL),0.0,0.0)),TEMP,,c04i090,
967 NSOL,17, (NODE((2.0*PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h04o090,
968 NSOL,18, (NODE((2.0*PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s04o090,
969 NSOL,19, (NODE((2.0*PITCH+TWALL+SCELL),0.0,0.0)),TEMP,,t04o090,
970 NSOL,20, (NODE( (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
971 NSOL,21, (NODE( (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
972 NSOL,22, (NODE(          DCRAD,0.0,0.0)),TEMP,,o04o090,
973 PRVAR, 2, 3, 4, 5, 6, 7,
974 PRVAR, 8, 9,10,11,12,13,
975 PRVAR,14,15,16,17,18,19,
976 PRVAR,20,21,22,
977 /COM,
978 /COM, *****
979 /COM, * Temperature Profile from center to upper right (135 deg.) *
980 /COM, *****
981 NSOL, 2, (NODE(          0.0,          0.0,0.0)),TEMP,,c01i135,
982 NSOL, 3, (NODE(          QCELL,          QCELL,0.0)),TEMP,,h01o135,
983 NSOL, 4, (NODE(          HCELL,          HCELL,0.0)),TEMP,,s01o135,
984 NSOL, 5, (NODE(          SCELL,          SCELL,0.0)),TEMP,,t01o135,
985 NSOL, 6, (NODE( (SCELL+0.5*TWALL), (SCELL+0.5*TWALL),0.0)),TEMP,,ts1o135,
986 NSOL, 7, (NODE((PITCH+TWALL-SCELL),(PITCH+TWALL-SCELL),0.0)),TEMP,,t07i135,
987 NSOL, 8, (NODE((PITCH+TWALL-HCELL),(PITCH+TWALL-HCELL),0.0)),TEMP,,s07i135,
988 NSOL, 9, (NODE((PITCH+TWALL-QCELL),(PITCH+TWALL-QCELL),0.0)),TEMP,,h07i135,
989 NSOL,10, (NODE( (PITCH+TWALL), (PITCH+TWALL),0.0)),TEMP,,c07i135,
990 NSOL,11, (NODE((PITCH+TWALL+QCELL),(PITCH+TWALL+QCELL),0.0)),TEMP,,h07o135,
991 NSOL,12, (NODE((PITCH+TWALL+HCELL),(PITCH+TWALL+HCELL),0.0)),TEMP,,s07o135,
992 NSOL,13, (NODE(          GX24,          GX24,0.0)),TEMP,,g07i135,
993 NSOL,14, (NODE(          GX25,          GX25,0.0)),TEMP,,g07o135,
994 NSOL,15, (NODE(          DI45,          DI45,0.0)),TEMP,,i07i135,
995 NSOL,16, (NODE(          DM45,          DM45,0.0)),TEMP,,i07o135,
996 NSOL,17, (NODE(          DO45,          DO45,0.0)),TEMP,,o07o135,
997 /COM,          Add centers of assemblies 9 and 10
998 NSOL,18, (NODE( (2.0*PITCH+TWALL), (PITCH+TWALL),0.0)),TEMP,,c09i135,

```

```

999 NSOL,19,(NODE(      (PITCH+TWALL), (2.0*PITCH+TWALL),0.0)),TEMP,,c10i135,
1000 PRVAR, 2, 3, 4, 5, 6, 7,
1001 PRVAR, 8, 9,10,11,12,13,
1002 PRVAR,14,15,16,17,18,19,
1003 /COM,
1004 /COM, *****
1005 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1006 /COM, *****
1007 NSOL, 2,(NODE(0.0,      0.0,0.0)),TEMP,,c01i180,
1008 NSOL, 3,(NODE(0.0,      QCELL,0.0)),TEMP,,h01o180,
1009 NSOL, 4,(NODE(0.0,      HCELL,0.0)),TEMP,,s01o180,
1010 NSOL, 5,(NODE(0.0,      SCELL,0.0)),TEMP,,t01o180,
1011 NSOL, 6,(NODE(0.0,      (SCELL+0.5*TWALL),0.0)),TEMP,,ts5i180,
1012 NSOL, 7,(NODE(0.0,      (PITCH+TWALL-SCELL),0.0)),TEMP,,t05i180,
1013 NSOL, 8,(NODE(0.0,      (PITCH+TWALL-HCELL),0.0)),TEMP,,s05i180,
1014 NSOL, 9,(NODE(0.0,      (PITCH+TWALL-QCELL),0.0)),TEMP,,h05i180,
1015 NSOL,10,(NODE(0.0,      (PITCH+TWALL),0.0)),TEMP,,c05i180,
1016 NSOL,11,(NODE(0.0,      (PITCH+TWALL+QCELL),0.0)),TEMP,,h05o180,
1017 NSOL,12,(NODE(0.0,      (PITCH+TWALL+HCELL),0.0)),TEMP,,s05o180,
1018 NSOL,13,(NODE(0.0,      (PITCH+TWALL+SCELL),0.0)),TEMP,,t05i180,
1019 NSOL,14,(NODE(0.0,(2.0*PITCH+TWALL-HCELL),0.0)),TEMP,,s03i180,
1020 NSOL,15,(NODE(0.0,(2.0*PITCH+TWALL-QCELL),0.0)),TEMP,,h03i180,
1021 NSOL,16,(NODE(0.0,      (2.0*PITCH+TWALL),0.0)),TEMP,,c03i180,
1022 NSOL,17,(NODE(0.0,(2.0*PITCH+TWALL+QCELL),0.0)),TEMP,,h03o180,
1023 NSOL,18,(NODE(0.0,(2.0*PITCH+TWALL+HCELL),0.0)),TEMP,,s03o180,
1024 NSOL,19,(NODE(0.0,(2.0*PITCH+TWALL+SCELL),0.0)),TEMP,,t03o180,
1025 NSOL,20,(NODE(0.0,      (DCRAD-OWALL-IWALL),0.0)),TEMP,,i03i180,
1026 NSOL,21,(NODE(0.0,      (DCRAD-OWALL),0.0)),TEMP,,i03o180,
1027 NSOL,22,(NODE(0.0,      DCRAD,0.0)),TEMP,,o03o180,
1028 PRVAR, 2, 3, 4, 5, 6, 7,
1029 PRVAR, 8, 9,10,11,12,13,
1030 PRVAR,14,15,16,17,18,19,
1031 PRVAR,20,21,22,
1032 FINISH
1033 /COM, *****
1034 /COM, End of batch input file
1035 /COM, *****
1036 /EXIT,
1037 /EOF

```

RUN SETUP PROCEDURE FROM FILE= /ansys50a/docu/start.ans

```

/INPUT FILE= /ansys50a/docu/start.ans LINE=      0
*****
ANSYS STARTUP FILE start.ans
*****

```

```

ABBREVIATION= K1      /pnum,kp ,1,
ABBREVIATION= K0      /pnum,kp ,0,
ABBREVIATION= L1      /pnum,line,1,
ABBREVIATION= L0      /pnum,line,0,
ABBREVIATION= A1      /pnum,area,1,
ABBREVIATION= A0      /pnum,area,0,
ABBREVIATION= V1      /pnum,volu,1,
ABBREVIATION= V0      /pnum,volu,0,
ABBREVIATION= N1      /pnum,node,1,
ABBREVIATION= N0      /pnum,node,0,
ABBREVIATION= E1      /pnum,elem,1,
ABBREVIATION= E0      /pnum,elem,0,

```

```

ABBREVIATION= M1      /pnum,mat ,1,
ABBREVIATION= M0      /pnum,mat ,0,
ABBREVIATION= R1      /pnum,real,1,
ABBREVIATION= R0      /pnum,real,0,
ABBREVIATION= T1      /pnum,type,1,
ABBREVIATION= T0      /pnum,type,0,
ABBREVIATION= C1      /number,1,
ABBREVIATION= C0      /number,0,
ABBREVIATION= INP     /input,,inp,
ABBREVIATION= X3D     /show,3d,
ABBREVIATION= X11     /show,x11,
ABBREVIATION= VEC     /show,,,1,
ABBREVIATION= RAS     /show,,,0,
ABBREVIATION= ON      /menu,on,
ABBREVIATION= OFF     /menu,off,
ABBREVIATION= NVP     /config,nvpag,512,
ABBREVIATION= QUIT    /exit,nosav,
XYZ TRIAD DISPLAY SET TO OFF

```

VIEW CONE ANGLE FOR WINDOW 1 25.00

```

*****
END start.ans
*****

```

To start ANSYS menu:

```

type:  x3d  for console
       x11  for X-term

```

```

type:  on

```

```

*****
*****
ANSYS REVISION  5.0A                      6/10/1995
2-D Model of 125 ton burnup credit UCF-DC  Thomas L. Lotz
*****
*
* File name: ucf21x.inp
*   21 PWR UCF with High T.L. Disposal Container
*   Helium Fill Gas
*
* Material Property file: props01.dat
*
* SNF Conductivity file: pwr15e.parm
*   15x15 Mark-B4 PWR SNF Assembly
*
* SNF Heat Loads file:   snf1048.dat
*   SNF Type: 10 years old, 48086 MWd/MTU
*
* Surface Temp. file:    c21x5a.parm
*   100 MTU/acre (24.7 kgU/m^2) AML (High Thermal Loading)
*   5.0 m Diameter Drift with Concrete Invert
*   Drift spacing = 22.5 m

```

```
*      WP c/c spacing = 16.164 m      *
*                                     *
*****
Increase the number of database pages from 16 (256) to 32 Mb
```

```
NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512
Work space must also be increased (-m 64)
*****
```

```
TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
```

```
SI UNITS SPECIFIED
LENGTH      = METERS(M)
MASS        = KILOGRAMS(KG)
TIME        = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT     = AMPS
*****
Read in average effective conductivities from SNF model
```

```
*** NOTE ***                      CP=      .650   TIME= 10:01:47
Restore ANSYS parameters from file= pwr15e.parm.
```

```
/INPUT FILE= pwr15e.parm LINE=      0
```

```
PRINTOUT RESUMED BY /GOP
Read in surface temps. from repository model
```

```
*** NOTE ***                      CP=      .830   TIME= 10:01:47
Restore ANSYS parameters from file= c21x5a.parm.
```

```
/INPUT FILE= c21x5a.parm LINE=      0
```

```
PRINTOUT RESUMED BY /GOP
*****
```

Define Required Constants:

```
PARAMETER PI      =      3.141593
```

```
Define UCF/waste package parameters
(UCF dimensions converted from inches/cm/mm to meters were requi
MIRAD = inner radius of UCF He Backfill shell (m) (NOT
MWALL = UCF He Backfill shell thickness (m) (NOT
DCRAD = disposal container outer radius (m)
OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)
DCIRD = disposal container inner radius (m)

GCORN = corner guide width (m)
GWALL = basket guide thickness (m)
GLEN1 = side guide 1/3 width (m) (NOT USED)
GLENT = side guide total width (m) (NOT USED)

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
TWALL = Aluminum thermal shunt thickness (m)
AWALL = Al/boron tube thickness (m) (NOT USED)

ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor
```

```
MIRAD=1363.6/1000.0/2.0
MWALL=1.0000*2.54/100.0
```

```
PARAMETER DCRAD      =      .8145000
```

```
PARAMETER OWALL      =      .1000000
```

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .6945000

PARAMETER GCORN = .2335000

PARAMETER GWALL = .9500000E-02

GLEN1=9.6170*2.54/100.0

GLENT=28.866*2.54/100.0

PARAMETER HCELL = .1117500

PARAMETER SWALL = .5000000E-02

PARAMETER TWALL = .1000000E-01

AWALL=0.2500*2.54/100.0

PARAMETER ACTVL = 3.601720

PARAMETER PEAKF = 1.250000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)

FUEL = volumetric heat production (W/m3) f(yrs)

FVOLU = assy_volume=cell_width^2*active_length

PITCH = basket cell outer width (m)

QCELL = 1/4 of basket cell opening (m)

SCELL = 1/2 of basket cell opening+SS wall(m)

ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)

GX## = x coord. of basket guide or thermal shunt/shell c

GX## = y coord. of basket guide or thermal shunt/shell c

MI45 = x coord. MIRAD at 45 deg. (NOT USED)

MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)

DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.

DM45 = x coord. DCRAD-OWALL at 45 deg.

DO45 = x coord. DCRAD at 45 deg.

ARRAY PARAMETER ASSY DELETED.

SET PARAMETER DIMENSIONS ON ASSY TYPE=TABL DIMENSIONS= 101 1 1

SET PARAMETER DIMENSIONS ON FUEL TYPE=TABL DIMENSIONS= 101 1 1

PARAMETER FVOLU = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500

ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .1167500

PARAMETER GY22 = .6846165

PARAMETER GX23 = .1267500

PARAMETER GY23 = .6828358

PARAMETER GX24 = .3602500
 PARAMETER GY24 = .5937594
 PARAMETER GX25 = .3697500
 PARAMETER GY25 = .5878905

MI45=MIRAD/SQRT(2.0)
 MO45=(MIRAD+MWALL)/SQRT(2.0)

PARAMETER DI45 = .4910857
 PARAMETER DM45 = .5052278
 PARAMETER DO45 = .5759385

Define Transient Time parameters based upon the following:

Note: 1 year = 3.15576e7 seconds
 TM_START = start time (sec)
 TMI* = time increment for solution (sec)
 TME* = start and stop for time do-loops (sec)
 TMTMAX = time of maximum cladding temperature

PARAMETER TM_START = 31.55760
 PARAMETER TM10 = 3155760.
 PARAMETER TM11 = .3155760E+08
 PARAMETER TM110 = .3155760E+09
 PARAMETER TM1100 = .3155760E+10
 PARAMETER TM11000 = .3155760E+11
 PARAMETER TME0 = .2840187E+08
 PARAMETER TME1 = .3155763E+08
 PARAMETER TME9 = .2840184E+09
 PARAMETER TME10 = .3155760E+09
 PARAMETER TME50 = .1577880E+10
 PARAMETER TME90 = .2840184E+10
 PARAMETER TME100 = .3155760E+10
 PARAMETER TME1000 = .3155760E+11

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:01:48 JUN 12, 1995 CP= 1.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE 1 IS PLANE55 2-D THERMAL SOLID
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP

TWO-DIMENSIONAL MODEL

ELEMENT TYPE 2 IS SOLID70 3-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 7 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 16 IS SHELL57 THERMAL SHELL
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 17 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 18 IS MATRIX50 SUBSTRUCTURE MATRIX
KEYOPT(1-12)= 1 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 19 IS LINK31 RADIATION LINK
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 27 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

File props01.dat describes material properties
and thier reference numbers

READ IN MATERIAL PROPERTY LIBRARY FROM FILE= props01.dat

/INPUT FILE= props01.dat LINE= 0

** ANSYS 5.0 MPC MATERIAL PROPERTY TABLES **

** Filename: props01.dat **
** Compiled by R. Bahney III on 1-30-95 **

NUMBER	MATERIAL	DESCRIPTION
1	Stainless Steel 316	Basket Structural Support
2	Incaloy 825	Inner Container (resistant)
3	A516 Mild Steel	Outer Container (allowance)
4	UO2 Pellet	SNF Uranium Oxide Pellet
5	Zircaloy 4	SNF Cladding
6	Oxidation Layer	Stably Oxidized Zircaloy Surface
7	Helium	Canister Fill Gas
8	Air	Alternate Fill Gas
9	Nitrogen	Alternate Fill Gas
10	Argon	Alternate Fill Gas
11	Aluminum 6063	Thermal Conductor
12	Copper	Alternate Thermal Conductor

13 Aluminum-Boron Aluminum Boron Criticality Matl

```
*****
**      Density:      DENS      (kg/m^3)      **
**      Emissivity    EMIS      **
**      Conductivity: KXX      (W/m/K)      **
**      Specific Heat: C      (J/kg/K)      **
*****
```

Define densities for all materials except gases

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
SLOC= 1 8000.000

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
SLOC= 1 8137.900

PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
SLOC= 1 8131.000

PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
SLOC= 1 10970.00

PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 6 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 11 NUM. POINTS= 1
SLOC= 1 2690.000

PROPERTY TABLE DENS MAT= 12 NUM. POINTS= 1
SLOC= 1 8933.000

PROPERTY TABLE DENS MAT= 13 NUM. POINTS= 1
SLOC= 1 2693.000

Define emissivities for all materials except gases

PROPERTY TABLE EMIS MAT= 1 NUM. POINTS= 1
SLOC= 1 .6000000

PROPERTY TABLE EMIS MAT= 2 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 3 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 4 NUM. POINTS= 1
SLOC= 1 .7900000

PROPERTY TABLE EMIS MAT= 5 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 6 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 11 NUM. POINTS= 1
SLOC= 1 .7000000E-01

PROPERTY TABLE EMIS MAT= 12 NUM. POINTS= 1
SLOC= 1 .5000000

PROPERTY TABLE EMIS MAT= 13 NUM. POINTS= 1

SLOC= 1 .7000000E-01

Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15

PROPERTY TABLE C MAT= 4 NUM. POINTS= 1
SLOC= 1 247.0000

PROPERTY TABLE C MAT= 5 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 6 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 7 NUM. POINTS= 1
SLOC= 1 5193.000

PROPERTY TABLE C MAT= 11 NUM. POINTS= 1
SLOC= 1 900.0000

Define K and C for materials 1, 3

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 21.11000 37.78000 65.56000
93.33000 121.1100 148.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 176.6700 204.4400 232.2200
260.0000 287.7800 315.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 343.3300 371.1100 398.8900
426.6700 454.4400 482.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
SLOC= 19 510.0000 537.7800 565.5600
593.3300 621.1100 648.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
SLOC= 25 676.6700 704.4400 732.2200
760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 6
SLOC= 1 13.33000 13.67000 14.19000 14.54000
15.06000 15.58000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 12
SLOC= 7 15.92000 16.44000 16.96000 17.31000
17.83000 18.17000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 18
SLOC= 13 18.52000 19.04000 19.38000 19.90000
20.25000 20.77000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 24
SLOC= 19 21.11000 21.46000 21.98000 22.33000
22.67000 23.02000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 30
SLOC= 25 23.54000 23.88000 24.23000 24.58000
24.92000 25.27000

PROPERTY TABLE C MAT= 1 NUM. POINTS= 6
SLOC= 1 481.6800 486.9200 498.0900 499.3800
509.9800 520.2900

PROPERTY TABLE C MAT= 1 NUM. POINTS= 12
SLOC= 7 521.0700 527.3800 536.9200 537.3400
543.0200 543.3100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 18
 SLOC= 13 546.9100 552.1400 552.2600 557.2200
 557.2500 565.1100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 24
 SLOC= 19 565.0100 564.9100 572.3500 572.1400
 574.9200 574.6800

PROPERTY TABLE C MAT= 1 NUM. POINTS= 30
 SLOC= 25 581.6400 581.3000 583.8600 586.3600
 585.9600 588.3900

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 6
 SLOC= 1 40.84000 41.36000 41.88000 42.23000
 42.23000 42.23000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 12
 SLOC= 7 42.06000 41.88000 41.36000 41.02000
 40.50000 39.98000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 18
 SLOC= 13 39.29000 38.77000 38.08000 37.56000
 36.69000 36.17000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 24
 SLOC= 19 35.48000 34.61000 33.92000 33.23000
 32.36000 31.50000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 30
 SLOC= 25 30.29000 28.90000 27.35000 26.48000
 26.13000 26.13000

PROPERTY TABLE C MAT= 3 NUM. POINTS= 6
 SLOC= 1 428.7200 444.9500 460.9400 476.8700
 486.0800 495.6600

PROPERTY TABLE C MAT= 3 NUM. POINTS= 12
 SLOC= 7 506.0900 517.0700 525.6400 536.9900
 543.6300 550.6200

PROPERTY TABLE C MAT= 3 NUM. POINTS= 18
 SLOC= 13 562.2100 577.3200 589.1000 600.5700
 611.3500 629.0900

PROPERTY TABLE C MAT= 3 NUM. POINTS= 24
 SLOC= 19 645.3200 665.1200 682.0700 694.5200
 724.0700 761.9500

PROPERTY TABLE C MAT= 3 NUM. POINTS= 30
 SLOC= 25 806.3100 888.6000 1095.040 1638.780
 808.6800 736.9000

Define K for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800 565.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***

SLOC= 19	593.3300	621.1100	648.8900
	676.6700	704.4400	732.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 27 ***
 SLOC= 25 760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 2	NUM. POINTS= 6	
SLOC= 1	12.29000	12.63000 13.15000 13.67000
	14.02000	14.54000

PROPERTY TABLE KXX MAT= 2	NUM. POINTS= 12	
SLOC= 7	14.88000	15.40000 15.75000 16.10000
	16.61000	16.96000

PROPERTY TABLE KXX MAT= 2	NUM. POINTS= 18	
SLOC= 13	17.31000	17.65000 18.00000 18.52000
	18.86000	19.21000

PROPERTY TABLE KXX MAT= 2	NUM. POINTS= 24	
SLOC= 19	19.73000	20.08000 20.42000 20.94000
	21.46000	21.98000

PROPERTY TABLE KXX MAT= 2	NUM. POINTS= 27	
SLOC= 25	22.33000	23.02000 23.54000

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 17 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800

PROPERTY TABLE C MAT= 2	NUM. POINTS= 6	
SLOC= 1	460.6900	477.4200 501.0200 504.6500
	498.1200	520.4500

PROPERTY TABLE C MAT= 2	NUM. POINTS= 12	
SLOC= 7	536.8800	559.8500 576.8300 576.2100
	581.6800	598.2000

PROPERTY TABLE C MAT= 2	NUM. POINTS= 17	
SLOC= 13	619.5800	636.7600 654.2000 678.2500
	696.2900	

Define K for materials 4, 5, 6

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 .0000000E+00 10.00000 20.00000
 30.00000 40.00000 50.00000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 60.00000 70.00000 80.00000
 90.00000 100.0000 110.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 120.0000 130.0000 140.0000
 150.0000 160.0000 170.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 180.0000 190.0000 200.0000
 210.0000 220.0000 230.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
 SLOC= 25 240.0000 250.0000 260.0000
 270.0000 280.0000 290.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 36 ***
 SLOC= 31 300.0000 310.0000 320.0000
 330.0000 340.0000 350.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 42 ***
 SLOC= 37 360.0000 370.0000 380.0000
 390.0000 400.0000 410.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 48 ***
 SLOC= 43 420.0000 430.0000 440.0000
 450.0000 460.0000 470.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 50 ***
 SLOC= 48 480.0000 490.0000 500.0000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 6
 SLOC= 1 8.720000 8.540000 8.360000 8.190000
 8.030000 7.870000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 12
 SLOC= 7 7.720000 7.580000 7.440000 7.310000
 7.180000 7.050000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 18
 SLOC= 13 6.930000 6.820000 6.700000 6.600000
 6.490000 6.390000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 24
 SLOC= 19 6.290000 6.190000 6.100000 6.010000
 5.920000 5.840000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 30
 SLOC= 25 5.760000 5.680000 5.600000 5.520000
 5.450000 5.380000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 36
 SLOC= 31 5.310000 5.240000 5.180000 5.110000
 5.050000 4.990000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 42
 SLOC= 37 4.930000 4.870000 4.810000 4.760000
 4.700000 4.650000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 48
 SLOC= 43 4.600000 4.550000 4.500000 4.450000
 4.400000 4.350000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 50
 SLOC= 48 4.310000 4.270000 4.220000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 6
 SLOC= 1 12.29000 12.44000 12.58000 12.72000
 12.87000 13.01000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 12
 SLOC= 7 13.15000 13.28000 13.42000 13.55000
 13.69000 13.82000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 18
 SLOC= 13 13.95000 14.08000 14.21000 14.34000
 14.46000 14.59000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 24
 SLOC= 19 14.72000 14.84000 14.96000 15.09000
 15.21000 15.33000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 30
 SLOC= 25 15.45000 15.57000 15.69000 15.81000
 15.93000 16.05000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 36
 SLOC= 31 16.17000 16.29000 16.40000 16.52000
 16.64000 16.76000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 42
 SLOC= 37 16.88000 16.99000 17.11000 17.23000
 17.35000 17.46000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 48
 SLOC= 43 17.58000 17.70000 17.82000 17.94000
 18.06000 18.18000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 50
 SLOC= 48 18.30000 18.42000 18.54000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 6
 SLOC= 1 1.940000 1.940000 1.940000 1.940000
 1.940000 1.940000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 12
 SLOC= 7 1.940000 1.950000 1.950000 1.950000
 1.950000 1.950000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 18
 SLOC= 13 1.950000 1.950000 1.960000 1.960000
 1.960000 1.960000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 24
 SLOC= 19 1.960000 1.970000 1.970000 1.970000
 1.970000 1.980000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 30
 SLOC= 25 1.980000 1.980000 1.980000 1.990000
 1.990000 1.990000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 36
 SLOC= 31 2.000000 2.000000 2.000000 2.010000
 2.010000 2.010000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 42
 SLOC= 37 2.020000 2.020000 2.020000 2.030000
 2.030000 2.030000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.040000 2.050000
 2.050000 2.060000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 50
 SLOC= 48 2.060000 2.060000 2.070000

Define p, K, C for materials 7, 8, 9, ~10

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -13.15000 6.850000 26.85000
 76.85000 126.8500 176.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 226.8500 276.8500 326.8500
 376.8500 426.8500 476.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 15 ***
 SLOC= 13 526.8500 626.8500 726.8500

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1875000 .1750000 .1625000 .1422000
 .1219000 .1097000

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 12
 SLOC= 7 .9750000E-01 .9060000E-01 .8360000E-01 .7670000E-01
 .6970000E-01 .6620000E-01

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 15
 SLOC= 13 .6270000E-01 .5580000E-01 .4880000E-01

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1370000 .1450000 .1520000 .1700000
 .1870000 .2040000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 12
 SLOC= 7 .2200000 .2360000 .2520000 .2640000
 .2780000 .2910000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 15
 SLOC= 13 .3040000 .3300000 .3540000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 6
 SLOC= 1 1.348000 1.254700 1.161400 .9950000
 .8711000 .7740000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 12
 SLOC= 7 .6964000 .6329000 .5804000 .5356000
 .4975000 .4643000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 15
 SLOC= 13 .4354000 .3868000 .3482000

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2500000E-01 .2600000E-01 .3000000E-01
 .3400000E-01 .3700000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12
 SLOC= 7 .4100000E-01 .4400000E-01 .4700000E-01 .5000000E-01
 .5200000E-01 .5500000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 15
 SLOC= 13 .5700000E-01 .6200000E-01 .6700000E-01

PROPERTY TABLE C MAT= 8 NUM. POINTS= 6
 SLOC= 1 1006.200 1006.600 1007.000 1009.000
 1014.000 1021.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 12
 SLOC= 7 1030.000 1040.000 1051.000 1063.000
 1075.000 1087.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 15
 SLOC= 13 1099.000 1121.000 1141.000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 6
 SLOC= 1 1.303700 1.213500 1.123300 .9625000
 .8425000 .7485000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12
 SLOC= 7 .6739000 .6124000 .5615000 .5214000
 .4812000 .4512000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 15
 SLOC= 13 .4211000 .3743000 .3368000

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2400000E-01 .2600000E-01 .2900000E-01
 .3300000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12
 SLOC= 7 .3900000E-01 .4200000E-01 .4500000E-01 .4700000E-01
 .5000000E-01 .5200000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 15
 SLOC= 13 .5500000E-01 .6000000E-01 .6500000E-01

PROPERTY TABLE C MAT= 9 NUM. POINTS= 6
 SLOC= 1 1041.800 1041.400 1041.000 1042.000
 1045.000 1050.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 12
 SLOC= 7 1056.000 1065.000 1075.000 1086.500
 1098.000 1159.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 15
 SLOC= 13 1220.000 1146.000 1167.000

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 6
 SLOC= 1 .1700000E-01 .1700000E-01 .1800000E-01 .2100000E-01
 .2300000E-01 .2500000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12
 SLOC= 7 .2700000E-01 .2800000E-01 .3000000E-01 .3200000E-01
 .3400000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 15
 SLOC= 13 .3700000E-01 .4100000E-01 .4400000E-01

Define K and C for material 12

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -73.15000 26.85000 126.8500
 326.8500 526.8500 726.8500

PROPERTY TABLE KXX MAT= 12 NUM. POINTS= 6
 SLOC= 1 413.0000 401.0000 393.0000 379.0000
 366.0000 352.0000

PROPERTY TABLE C MAT= 12 NUM. POINTS= 6
 SLOC= 1 356.0000 385.0000 397.0000 417.0000
 433.0000 451.0000

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***
 SLOC= 1 23.00000 50.00000 100.0000
 150.0000 200.0000

PROPERTY TABLE KXX MAT= 13 NUM. POINTS= 5
 SLOC= 1 182.5600 190.1700 199.2200 202.9100
 203.7200

PROPERTY TABLE C MAT= 13 NUM. POINTS= 5
 SLOC= 1 868.0000 903.0000 946.0000 976.0000
 998.0000

 ** End of Material Property List **

 Read in single assembly heat loads

Calculate the volumetric heat generation
(Assembly time is in years, FUEL is in seconds)

/INPUT FILE= snf1048.dat LINE= 0

```
*****
** History of SNF Assembly Heat Generation Rates **
** Output of PHIA, SCSI: 800000000-01717-1200-3000X Rev.00B **
**
** Executable File Name: PHIA00B.EXE **
** Output File Name: snf1048.dat **
** Execution Date: 02/24/95 **
** Start Age (years): 10.0 **
** Decay Period (years): 10000 **
** Enrichment (percent): 4.20 **
** Burnup (MWd/MTU): 48086 **
** Assembly Type: PWR **
** SNF U Mass (MTU/assy): 0.464 **
**
** ASSY(#,1) is the SNF assembly heat in Watts. **
** ASSY(#,0) is the time post emplacement in years. **
*****
```

PARAMETER ASSY(1,1) =	850.0100 848.4600	849.6200 848.0800	849.2300	848.8500
PARAMETER ASSY(7,1) =	847.6900 846.1600	847.3100 844.2600	846.9300	846.5400
PARAMETER ASSY(13,1) =	842.3700 834.9500	840.5000 833.1300	838.6300	836.7900
PARAMETER ASSY(19,1) =	831.3200 824.2000	829.5200 822.4500	827.7400	825.9600
PARAMETER ASSY(25,1) =	820.7200 813.8800	818.9900 799.0100	817.2800	815.5700
PARAMETER ASSY(31,1) =	785.0300 738.5700	772.2000 729.5500	760.0600	749.0400
PARAMETER ASSY(37,1) =	720.9500 683.8600	710.2700 676.0300	700.0700	691.8000
PARAMETER ASSY(43,1) =	668.5000 642.5500	661.1300 580.1800	654.0400	648.1900
PARAMETER ASSY(49,1) =	529.8600 380.7000	484.5200 352.1900	445.3600	410.5100
PARAMETER ASSY(55,1) =	327.7800 252.6500	305.8800 238.3100	286.2200	268.5700
PARAMETER ASSY(61,1) =	225.3500 185.0400	213.6600 130.6600	203.8500	193.7500
PARAMETER ASSY(67,1) =	105.0700 66.61000	90.10000 61.74000	80.32000	72.66000
PARAMETER ASSY(73,1) =	57.58000 44.98000	53.71000 42.50000	50.41000	47.54000
PARAMETER ASSY(79,1) =	40.31000 33.52000	38.35000 23.16000	36.59000	35.00000
PARAMETER ASSY(85,1) =	18.32000 12.84000	15.77000 12.37000	14.37000	13.53000
PARAMETER ASSY(91,1) =	11.96000 10.32000	11.47000 9.970000	11.04000	10.66000

PARAMETER ASSY(97,1) =	9.650000 8.610000	9.360000	9.090000	8.840000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01 .1000000	.7000000E-01 .1500000	.8000000E-01	.9000000E-01
PARAMETER ASSY(13,0) =	.2000000 .4000000	.2500000 .4500000	.3000000	.3500000
PARAMETER ASSY(19,0) =	.5000000 .7000000	.5500000 .7500000	.6000000	.6500000
PARAMETER ASSY(25,0) =	.8000000 1.000000	.8500000 1.500000	.9000000	.9500000
PARAMETER ASSY(31,0) =	2.000000 4.000000	2.500000 4.500000	3.000000	3.500000
PARAMETER ASSY(37,0) =	5.000000 7.000000	5.500000 7.500000	6.000000	6.500000
PARAMETER ASSY(43,0) =	8.000000 10.00000	8.500000 15.00000	9.000000	9.500000
PARAMETER ASSY(49,0) =	20.00000 40.00000	25.00000 45.00000	30.00000	35.00000
PARAMETER ASSY(55,0) =	50.00000 70.00000	55.00000 75.00000	60.00000	65.00000
PARAMETER ASSY(61,0) =	80.00000 100.0000	85.00000 150.0000	90.00000	95.00000
PARAMETER ASSY(67,0) =	200.0000 400.0000	250.0000 450.0000	300.0000	350.0000
PARAMETER ASSY(73,0) =	500.0000 700.0000	550.0000 750.0000	600.0000	650.0000
PARAMETER ASSY(79,0) =	800.0000 1000.000	850.0000 1500.000	900.0000	950.0000
PARAMETER ASSY(85,0) =	2000.000 4000.000	2500.000 4500.000	3000.000	3500.000
PARAMETER ASSY(91,0) =	5000.000 7000.000	5500.000 7500.000	6000.000	6500.000
PARAMETER ASSY(97,0) =	8000.000 10000.00	8500.000	9000.000	9500.000

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
 FACTOR ON FIRST VECTOR PARAMETER = 1.0000
 FACTOR ON SECOND VECTOR PARAMETER= 1.0000
 FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)
 INPUT MATRIX= ASSY(1,0)
 INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
 RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
 FACTOR ON FIRST VECTOR PARAMETER = 1.0000
 FACTOR ON SECOND VECTOR PARAMETER= 1.0000

FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN
 FUEL(1) = COPY ASSY(1)
 SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000
 VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
 SLOC= 1 .000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
 SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
 SLOC= 1 274.0000
 Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
 SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
 SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1
 SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2
 SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Construct geometry for Disposal Container

Define center and axis keypoints for waste package

Also, create placeholder keypoints and lines

(K's 1,2,3,4,5,6,7,8)

(L's 1,2,3,4)

KEYPOINT 1 X,Y,Z= .000000E+00 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 2 X,Y,Z= .000000E+00 .000000E+00 1.00000 IN CSYS= 0
 KEYPOINT 3 X,Y,Z= .000000E+00 .000000E+00 1.30000 IN CSYS= 0
 KEYPOINT 4 X,Y,Z= .000000E+00 .000000E+00 1.40000 IN CSYS= 0
 KEYPOINT 5 X,Y,Z= .000000E+00 .000000E+00 1.50000 IN CSYS= 0
 KEYPOINT 6 X,Y,Z= .000000E+00 .000000E+00 1.60000 IN CSYS= 0
 KEYPOINT 7 X,Y,Z= .000000E+00 .000000E+00 1.70000 IN CSYS= 0
 KEYPOINT 8 X,Y,Z= .000000E+00 .000000E+00 1.80000 IN CSYS= 0

LINE CONNECTS KEYPOINTS 3 4
 LINE NO.= 1 KP1= 3 TAN1= .0000 .0000 -1.0000
 KP2= 4 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 4 5
 LINE NO.= 2 KP1= 4 TAN1= .0000 .0000 -1.0000
 KP2= 5 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 5 6
 LINE NO.= 3 KP1= 5 TAN1= .0000 .0000 -1.0000
 KP2= 6 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 6 7
 LINE NO.= 4 KP1= 6 TAN1= .0000 .0000 -1.0000
 KP2= 7 TAN2= .0000 .0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT 9 X,Y,Z= .000000E+00 -.814500 .000000E+00 IN CSYS= 0
 KEYPOINT 10 X,Y,Z= .814500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 11 X,Y,Z= .000000E+00 .814500 .000000E+00 IN CSYS= 0
 KEYPOINT 12 X,Y,Z= .000000E+00 -.714500 .000000E+00 IN CSYS= 0
 KEYPOINT 13 X,Y,Z= .714500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 14 X,Y,Z= .000000E+00 .714500 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 10 13
 LINE NO.= 5 KP1= 10 TAN1= 1.0000 .0000 .0000
 KP2= 13 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 6 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 7 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 8 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .71450

LINE NO.= 9 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT	15	X,Y,Z=	.000000E+00	.694500	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.116750	.684616	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.126750	.682836	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.360250	.593759	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.369750	.587890	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.587890	.369750	.000000E+00	IN CSYS= 0
KEYPOINT	21	X,Y,Z=	.593759	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.682836	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.684616	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.694500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.684616	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.682836	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.593759	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.587890	-.369750	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.369750	-.587890	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.360250	-.593759	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.126750	-.682836	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.116750	-.684616	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.000000E+00	-.694500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000

VARIABLE 7 IS AT NODE 2465 ITEM= TEMP COMP= NAME= t08i045
 VARIABLE 8 IS AT NODE 2240 ITEM= TEMP COMP= NAME= s08i045
 VARIABLE 9 IS AT NODE 2331 ITEM= TEMP COMP= NAME= h08i045
 VARIABLE 10 IS AT NODE 2379 ITEM= TEMP COMP= NAME= c08i045
 VARIABLE 11 IS AT NODE 2427 ITEM= TEMP COMP= NAME= h08o045
 VARIABLE 12 IS AT NODE 2268 ITEM= TEMP COMP= NAME= s08o045
 VARIABLE 13 IS AT NODE 2494 ITEM= TEMP COMP= NAME= g08i045
 VARIABLE 14 IS AT NODE 3689 ITEM= TEMP COMP= NAME= g08o045
 VARIABLE 15 IS AT NODE 4332 ITEM= TEMP COMP= NAME= i08i045
 VARIABLE 16 IS AT NODE 4272 ITEM= TEMP COMP= NAME= i08o045
 VARIABLE 17 IS AT NODE 4521 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 11 and 12
 VARIABLE 18 IS AT NODE 3390 ITEM= TEMP COMP= NAME= c11i045
 VARIABLE 19 IS AT NODE 2716 ITEM= TEMP COMP= NAME= c12i045

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES							
VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i045	79.87	.3156E+11	240.7	.9467E+08
3	NSOL	84 TEMP	h01o045	79.13	.3156E+11	230.6	.1262E+09
4	NSOL	23 TEMP	s01o045	78.25	.3156E+11	218.1	.1578E+09
5	NSOL	348 TEMP	t01o045	78.21	.3156E+11	217.3	.1578E+09
6	NSOL	3831 TEMP	ts1o045	78.21	.3156E+11	217.3	.1578E+09
7	NSOL	2465 TEMP	t08i045	78.21	.3156E+11	217.2	.1578E+09
8	NSOL	2240 TEMP	s08i045	78.16	.3156E+11	216.3	.1578E+09
9	NSOL	2331 TEMP	h08i045	78.93	.3156E+11	226.5	.1262E+09
10	NSOL	2379 TEMP	c08i045	79.70	.3156E+11	235.4	.9467E+08
11	NSOL	2427 TEMP	h08o045	78.86	.3156E+11	221.3	.1262E+09
12	NSOL	2268 TEMP	s08o045	77.42	.3156E+11	197.3	.1578E+09
13	NSOL	2494 TEMP	g08i045	77.35	.3156E+11	195.8	.1578E+09
14	NSOL	3689 TEMP	g08o045	77.21	.3156E+11	193.1	.1578E+09
15	NSOL	4332 TEMP	i08i045	27.78	.1000E-05	149.2	.3156E+09
16	NSOL	4272 TEMP	i08o045	26.97	.1000E-05	148.3	.3156E+09
17	NSOL	4521 TEMP	o08o045	26.14	.1000E-05	147.5	.3156E+09
18	NSOL	3390 TEMP	c11i045	78.30	.3156E+11	210.5	.1578E+09
19	NSOL	2716 TEMP	c12i045	78.35	.3156E+11	211.3	.1578E+09
20	NSOL	4304 TEMP	i13i000	28.07	.1000E-05	150.1	.3156E+09
21	NSOL	4240 TEMP	i13o000	27.38	.1000E-05	149.5	.3156E+09
22	NSOL	4487 TEMP	o13o000	26.14	.1000E-05	148.6	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:16 JUN 13, 1995 CP= 69134.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i045	84 TEMP h01o045	23 TEMP s01o045	348 TEMP t01o045	3831 TEMP ts1o045	2465 TEMP t08i045
.10000E-05	163.607	148.656	130.031	128.935	128.908	128.886

.20000E-05	197.052	183.738	167.040	165.978	165.952	165.930
31.558	197.052	183.738	167.040	165.978	165.952	165.930
.31558E+07	219.658	207.468	192.058	191.063	191.038	191.018
.63116E+07	224.788	212.848	197.734	196.746	196.721	196.701
.94673E+07	227.824	216.049	201.146	200.164	200.140	200.120
.12623E+08	230.040	218.398	203.660	202.685	202.661	202.641
.15779E+08	231.723	220.198	205.609	204.639	204.615	204.595
.18935E+08	233.102	221.677	207.215	206.251	206.227	206.207
.22090E+08	234.231	222.897	208.550	207.590	207.566	207.547
.25246E+08	235.139	223.887	209.643	208.689	208.665	208.646
.28402E+08	235.902	224.725	210.577	209.628	209.604	209.585
.31558E+08	236.566	225.459	211.402	210.457	210.433	210.414
.63115E+08	240.048	229.455	216.057	215.149	215.126	215.108
.94673E+08	240.706	230.478	217.554	216.676	216.654	216.636
.12623E+09	240.510	230.571	218.023	217.171	217.149	217.132
.15779E+09	240.069	230.358	218.107	217.275	217.254	217.238
.18935E+09	238.770	229.309	217.384	216.576	216.556	216.539
.22090E+09	237.725	228.456	216.784	215.994	215.975	215.958
.25246E+09	236.638	227.550	216.114	215.342	215.323	215.307
.28402E+09	234.957	226.022	214.788	214.033	214.014	213.998
.31558E+09	233.588	224.774	213.701	212.958	212.939	212.924
.63115E+09	216.767	209.126	199.598	198.980	198.964	198.952
.94673E+09	200.688	193.930	185.584	185.059	185.046	185.036
.12623E+10	186.027	179.990	172.578	172.126	172.115	172.105
.15779E+10	173.408	168.002	161.399	161.007	160.998	160.990
.18935E+10	163.043	158.161	152.225	151.882	151.873	151.866
.22090E+10	154.390	149.955	144.587	144.282	144.275	144.269
.25246E+10	146.659	142.607	137.720	137.447	137.441	137.435
.28402E+10	140.538	136.804	132.311	132.063	132.057	132.052
.31558E+10	135.268	131.823	127.686	127.461	127.455	127.451
.63115E+10	110.021	107.897	105.372	105.242	105.239	105.236
.94673E+10	100.765	99.0889	97.1056	97.0056	97.0032	97.0012
.12623E+11	95.4799	94.0674	92.3990	92.3157	92.3138	92.3121
.15779E+11	91.7612	90.5276	89.0721	89.0000	88.9983	88.9968
.18935E+11	88.4455	87.3528	86.0651	86.0018	86.0003	85.9990
.22090E+11	85.7644	84.7826	83.6264	83.5698	83.5684	83.5673
.25246E+11	83.4523	82.5658	81.5228	81.4720	81.4708	81.4698
.28402E+11	81.5066	80.6966	79.7442	79.6980	79.6969	79.6959
.31558E+11	79.8735	79.1275	78.2510	78.2086	78.2076	78.2068

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:16 JUN 13, 1995 CP= 69134.300
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2240 TEMP s08i045	2331 TEMP h08i045	2379 TEMP c08i045	2427 TEMP h08o045	2268 TEMP s08o045	2494 TEMP g08i045
.10000E-05	127.616	143.843	159.153	141.931	110.120	108.370
.20000E-05	164.734	178.924	191.844	175.232	145.057	143.341
31.558	164.734	178.924	191.843	175.231	145.057	143.341
.31558E+07	189.914	202.892	214.358	198.218	169.222	167.532
.63116E+07	195.610	208.289	219.399	203.387	174.670	172.985
.94673E+07	199.040	211.510	222.392	206.481	178.007	176.331
.12623E+08	201.570	213.875	224.582	208.762	180.499	178.832
.15779E+08	203.533	215.692	226.248	210.515	182.450	180.792
.18935E+08	205.152	217.188	227.617	211.963	184.076	182.427
.22090E+08	206.499	218.425	228.740	213.162	185.441	183.800
.25246E+08	207.605	219.434	229.650	214.143	186.577	184.944
.28402E+08	208.550	220.289	230.416	214.977	187.559	185.933
.31558E+08	209.385	221.041	231.084	215.712	188.435	186.817
.63115E+08	214.124	225.183	234.650	219.814	193.644	192.086
.94673E+08	215.687	226.334	235.425	221.027	195.724	194.217
.12623E+09	216.211	226.538	235.346	221.319	196.730	195.266

.15779E+09	216.339	226.416	235.006	221.282	197.268	195.838
.18935E+09	215.666	225.476	233.842	220.470	197.112	195.722
.22090E+09	215.105	224.708	232.901	219.804	196.954	195.595
.25246E+09	214.472	223.883	231.915	219.078	196.708	195.379
.28402E+09	213.179	222.429	230.336	217.736	195.796	194.494
.31558E+09	212.118	221.241	229.048	216.637	195.038	193.757
.63115E+09	198.273	206.187	213.065	202.524	184.274	183.205
.94673E+09	184.452	191.437	197.623	188.523	172.829	171.922
.12623E+10	171.597	177.849	183.468	175.519	161.823	161.042
.15779E+10	160.546	166.156	171.258	164.277	152.263	151.587
.18935E+10	151.475	156.548	161.205	155.000	144.339	143.745
.22090E+10	143.920	148.526	152.792	147.225	137.687	137.160
.25246E+10	137.121	141.329	145.256	140.228	131.620	131.147
.28402E+10	131.765	135.646	139.288	134.695	126.833	126.404
.31558E+10	127.189	130.772	134.149	129.944	122.746	122.355
.63115E+10	105.083	107.297	109.431	106.932	102.661	102.434
.94673E+10	96.8825	98.6293	100.326	98.3793	95.0603	94.8856
.12623E+11	92.2131	93.6857	95.1207	93.4911	90.7139	90.5685
.15779E+11	88.9110	90.1974	91.4537	90.0366	87.6228	87.4968
.18935E+11	85.9235	87.0630	88.1784	86.9287	84.8017	84.6910
.22090E+11	83.4998	84.5238	85.5276	84.4081	82.5031	82.4043
.25246E+11	81.4091	82.3339	83.2417	82.2340	80.5200	80.4312
.28402E+11	79.6409	80.4861	81.3168	80.3984	78.8367	78.7560
.31558E+11	78.1563	78.9348	79.7009	78.8571	77.4224	77.3484

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:16 JUN 13, 1995 CP= 69134.320
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3689 TEMP g08o045	4332 TEMP i08i045	4272 TEMP i08o045	4521 TEMP o08o045	3390 TEMP c11i045	2716 TEMP c12i045
.10000E-05	105.009	27.7836	26.9684	26.1414	129.543	129.718
.20000E-05	140.031	71.1653	70.1966	69.2251	162.786	163.006
31.558	140.031	71.1653	70.1966	69.2251	162.785	163.006
.31558E+07	164.287	101.717	100.665	99.6078	185.667	186.450
.63116E+07	169.755	108.542	107.480	106.419	190.854	191.649
.94673E+07	173.119	112.930	111.864	110.803	194.007	194.801
.12623E+08	175.636	116.273	115.206	114.145	196.353	197.147
.15779E+08	177.612	118.965	117.897	116.840	198.166	198.957
.18935E+08	179.262	121.240	120.173	119.118	199.673	200.463
.22090E+08	180.649	123.190	122.125	121.073	200.929	201.717
.25246E+08	181.807	124.854	123.792	122.743	201.963	202.753
.28402E+08	182.811	126.324	125.265	124.220	202.850	203.639
.31558E+08	183.708	127.662	126.605	125.563	203.637	204.424
.63115E+08	189.090	136.235	135.208	134.197	208.168	208.937
.94673E+08	191.315	140.718	139.721	138.740	209.740	210.490
.12623E+09	192.445	143.614	142.644	141.690	210.336	211.071
.15779E+09	193.084	145.635	144.686	143.755	210.547	211.269
.18935E+09	193.046	147.092	146.171	145.267	210.026	210.735
.22090E+09	192.979	148.174	147.275	146.392	209.586	210.283
.25246E+09	192.820	149.086	148.207	147.344	209.074	209.762
.28402E+09	191.988	149.158	148.299	147.456	207.931	208.605
.31558E+09	191.294	149.179	148.335	147.507	206.991	207.654
.63115E+09	181.156	145.740	145.052	144.377	194.432	195.002
.94673E+09	170.185	139.638	139.069	138.508	181.641	182.140
.12623E+10	159.544	132.707	132.227	131.753	169.592	170.028
.15779E+10	150.287	126.612	126.203	125.800	159.134	159.522
.18935E+10	142.602	121.499	121.146	120.797	150.466	150.816
.22090E+10	136.145	117.194	116.887	116.581	143.187	143.507
.25246E+10	130.238	113.064	112.792	112.522	136.605	136.897
.28402E+10	125.578	109.848	109.605	109.362	131.402	131.673
.31558E+10	121.602	107.177	106.958	106.738	126.942	127.194

.63115E+10	102.001	93.3768	93.2579	93.1384	105.201	105.360
.94673E+10	94.5524	87.8313	87.7426	87.6531	97.0452	97.1714
.12623E+11	90.2917	84.6601	84.5876	84.5144	92.3823	92.4895
.15779E+11	87.2575	82.3551	82.2931	82.2304	89.0775	89.1710
.18935E+11	84.4813	80.1576	80.1039	80.0495	86.0893	86.1711
.22090E+11	82.2172	78.3387	78.2912	78.2432	83.6588	83.7320
.25246E+11	80.2634	76.7713	76.7289	76.6860	81.5627	81.6286
.28402E+11	78.6037	75.4194	75.3813	75.3428	79.7888	79.8494
.31558E+11	77.2088	74.2822	74.2475	74.2121	78.2987	78.3548

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 69134.490 TIME= 00:44:17
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 88 ITEM= TEMP COMP= NAME= h01o090
 VARIABLE 4 IS AT NODE 30 ITEM= TEMP COMP= NAME= s01o090
 VARIABLE 5 IS AT NODE 369 ITEM= TEMP COMP= NAME= t01o090
 VARIABLE 6 IS AT NODE 3936 ITEM= TEMP COMP= NAME= ts1o090
 VARIABLE 7 IS AT NODE 412 ITEM= TEMP COMP= NAME= t02i090
 VARIABLE 8 IS AT NODE 129 ITEM= TEMP COMP= NAME= s02i090
 VARIABLE 9 IS AT NODE 209 ITEM= TEMP COMP= NAME= h02i090
 VARIABLE 10 IS AT NODE 261 ITEM= TEMP COMP= NAME= c02i090
 VARIABLE 11 IS AT NODE 313 ITEM= TEMP COMP= NAME= h02o090
 VARIABLE 12 IS AT NODE 157 ITEM= TEMP COMP= NAME= s02o090
 VARIABLE 13 IS AT NODE 469 ITEM= TEMP COMP= NAME= t02i090
 VARIABLE 14 IS AT NODE 1236 ITEM= TEMP COMP= NAME= s04i090
 VARIABLE 15 IS AT NODE 1316 ITEM= TEMP COMP= NAME= h04i090
 VARIABLE 16 IS AT NODE 1368 ITEM= TEMP COMP= NAME= c04i090
 VARIABLE 17 IS AT NODE 1407 ITEM= TEMP COMP= NAME= h04o090
 VARIABLE 18 IS AT NODE 1264 ITEM= TEMP COMP= NAME= s04o090
 VARIABLE 19 IS AT NODE 1518 ITEM= TEMP COMP= NAME= t04o090
 VARIABLE 20 IS AT NODE 4057 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 21 IS AT NODE 3993 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 22 IS AT NODE 4484 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i090	79.87	.3156E+11	240.7	.9467E+08
3 NSOL	88 TEMP	h01o090	79.44	.3156E+11	234.9	.9467E+08
4 NSOL	30 TEMP	s01o090	78.39	.3156E+11	220.9	.1578E+09
5 NSOL	369 TEMP	t01o090	78.39	.3156E+11	220.8	.1578E+09
6 NSOL	3936 TEMP	ts1o090	78.39	.3156E+11	220.8	.1578E+09

7 NSOL	412 TEMP	t02i090	78.39	.3156E+11	220.8	.1578E+09
8 NSOL	129 TEMP	s02i090	78.39	.3156E+11	220.9	.1578E+09
9 NSOL	209 TEMP	h02i090	79.37	.3156E+11	233.6	.1262E+09
10 NSOL	261 TEMP	c02i090	79.76	.3156E+11	238.2	.9467E+08
11 NSOL	313 TEMP	h02o090	79.35	.3156E+11	232.2	.1262E+09
12 NSOL	157 TEMP	s02o090	78.45	.3156E+11	220.1	.1578E+09
13 NSOL	469 TEMP	t02i090	78.45	.3156E+11	220.0	.1578E+09
14 NSOL	1236 TEMP	s04i090	78.45	.3156E+11	220.0	.1578E+09
15 NSOL	1316 TEMP	h04i090	78.86	.3156E+11	223.2	.1262E+09
16 NSOL	1368 TEMP	c04i090	78.75	.3156E+11	219.1	.1578E+09
17 NSOL	1407 TEMP	h04o090	78.16	.3156E+11	208.9	.1578E+09
18 NSOL	1264 TEMP	s04o090	76.39	.3156E+11	179.3	.2525E+09
19 NSOL	1518 TEMP	t04o090	76.39	.3156E+11	179.1	.2525E+09
20 NSOL	4057 TEMP	i04i090	28.51	.1000E-05	148.7	.3156E+09
21 NSOL	3993 TEMP	i04o090	27.57	.1000E-05	147.7	.3156E+09
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	146.5	.3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i090	88 TEMP h01o090	30 TEMP s01o090	369 TEMP t01o090	3936 TEMP ts1o090	412 TEMP t02i090
.10000E-05	163.607	155.116	133.736	133.602	133.597	133.601
.20000E-05	197.052	189.514	170.633	170.504	170.499	170.504
31.558	197.052	189.513	170.634	170.505	170.500	170.504
.31558E+07	219.658	212.730	195.395	195.271	195.266	195.270
.63116E+07	224.788	218.005	201.047	200.924	200.919	200.923
.94673E+07	227.824	221.136	204.437	204.316	204.311	204.315
.12623E+08	230.040	223.427	206.930	206.809	206.804	206.809
.15779E+08	231.723	225.179	208.861	208.741	208.736	208.740
.18935E+08	233.102	226.615	210.449	210.330	210.325	210.329
.22090E+08	234.231	227.796	211.767	211.648	211.643	211.647
.25246E+08	235.139	228.751	212.844	212.726	212.721	212.725
.28402E+08	235.902	229.556	213.761	213.644	213.639	213.643
.31558E+08	236.566	230.260	214.570	214.454	214.449	214.453
.63115E+08	240.048	234.035	219.102	218.990	218.986	218.989
.94673E+08	240.706	234.899	220.498	220.390	220.386	220.389
.12623E+09	240.510	234.866	220.882	220.777	220.773	220.777
.15779E+09	240.069	234.554	220.897	220.795	220.791	220.794
.18935E+09	238.770	233.395	220.093	219.993	219.989	219.992
.22090E+09	237.725	232.458	219.430	219.333	219.329	219.332
.25246E+09	236.638	231.472	218.701	218.606	218.602	218.605
.28402E+09	234.957	229.877	217.322	217.229	217.225	217.228
.31558E+09	233.588	228.576	216.192	216.100	216.097	216.100
.63115E+09	216.767	212.410	201.669	201.592	201.589	201.591
.94673E+09	200.688	196.824	187.338	187.272	187.269	187.271
.12623E+10	186.027	182.568	174.090	174.032	174.030	174.032
.15779E+10	173.408	170.305	162.707	162.657	162.655	162.657
.18935E+10	163.043	160.236	153.372	153.328	153.326	153.328
.22090E+10	154.390	151.836	145.602	145.563	145.562	145.563
.25246E+10	146.659	144.323	138.631	138.595	138.594	138.595
.28402E+10	140.538	138.383	133.136	133.104	133.103	133.104
.31558E+10	135.268	133.279	128.437	128.408	128.407	128.408
.63115E+10	110.021	108.790	105.804	105.786	105.786	105.786
.94673E+10	100.765	99.7918	97.4369	97.4236	97.4231	97.4235
.12623E+11	95.4799	94.6591	92.6747	92.6636	92.6631	92.6635
.15779E+11	91.7612	91.0441	89.3110	89.3013	89.3010	89.3013
.18935E+11	88.4455	87.8101	86.2751	86.2667	86.2664	86.2666
.22090E+11	85.7644	85.1933	83.8145	83.8069	83.8067	83.8069
.25246E+11	83.4523	82.9366	81.6913	81.6846	81.6843	81.6845
.28402E+11	81.5066	81.0352	79.8977	79.8915	79.8912	79.8914

1 .31558E+11 79.8735 79.4392 78.3913 78.3856 78.3854 78.3856

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	129 TEMP s02i090	209 TEMP h02i090	261 TEMP c02i090	313 TEMP h02o090	157 TEMP s02o090	469 TEMP t02i090
.10000E-05	133.728	153.668	161.136	152.905	134.623	134.560
.20000E-05	170.625	188.056	194.486	186.996	170.761	170.700
31.558	170.625	188.055	194.486	186.995	170.762	170.700
.31558E+07	195.386	211.257	217.018	209.974	194.959	194.899
.63116E+07	201.037	216.534	222.139	215.206	200.492	200.432
.94673E+07	204.428	219.671	225.176	218.321	203.817	203.757
.12623E+08	206.921	221.967	227.395	220.603	206.262	206.202
.15779E+08	208.852	223.723	229.083	222.348	208.158	208.098
.18935E+08	210.440	225.163	230.467	223.782	209.717	209.658
.22090E+08	211.757	226.349	231.602	224.962	211.011	210.952
.25246E+08	212.834	227.309	232.517	225.919	212.069	212.010
.28402E+08	213.752	228.120	233.287	226.727	212.971	212.913
.31558E+08	214.561	228.829	233.959	227.435	213.767	213.709
.63115E+08	219.093	232.649	237.513	231.266	218.240	218.184
.94673E+08	220.489	233.554	238.240	232.199	219.631	219.577
.12623E+09	220.874	233.556	238.107	232.232	220.026	219.973
.15779E+09	220.889	233.273	237.718	231.976	220.056	220.004
.18935E+09	220.084	232.149	236.484	230.891	219.281	219.231
.22090E+09	219.422	231.239	235.489	230.011	218.643	218.594
.25246E+09	218.693	230.279	234.449	229.080	217.938	217.890
.28402E+09	217.314	228.709	232.815	227.541	216.592	216.546
.31558E+09	216.185	227.428	231.483	226.285	215.489	215.443
.63115E+09	201.663	211.456	215.029	210.565	201.235	201.196
.94673E+09	187.333	196.012	199.220	195.308	187.101	187.068
.12623E+10	174.086	181.872	184.775	181.311	173.997	173.969
.15779E+10	162.704	169.704	172.334	169.253	162.709	162.685
.18935E+10	153.369	159.710	162.108	159.338	153.432	153.411
.22090E+10	145.600	151.369	153.562	151.054	145.695	145.676
.25246E+10	138.628	143.904	145.919	143.635	138.746	138.730
.28402E+10	133.134	138.003	139.869	137.769	133.265	133.250
.31558E+10	128.435	132.932	134.660	132.727	128.574	128.560
.63115E+10	105.803	108.590	109.676	108.496	105.940	105.932
.94673E+10	97.4361	99.6382	100.500	99.5713	97.5565	97.5503
.12623E+11	92.6741	94.5312	95.2595	94.4776	92.7798	92.7746
.15779E+11	89.3104	90.9332	91.5705	90.8880	89.4049	89.4004
.18935E+11	86.2747	87.7129	88.2784	87.6743	86.3606	86.3566
.22090E+11	83.8141	85.1064	85.6152	85.0726	83.8922	83.8887
.25246E+11	81.6910	82.8586	83.3185	82.8288	81.7628	81.7597
.28402E+11	79.8973	80.9643	81.3850	80.9377	79.9636	79.9607
.31558E+11	78.3910	79.3742	79.7621	79.3502	78.4528	78.4502

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.660
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1236 TEMP s04i090	1316 TEMP h04i090	1368 TEMP c04i090	1407 TEMP h04o090	1264 TEMP s04o090	1518 TEMP t04o090
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.10000E-05	134.571	142.335	139.454	127.010	86.6689	86.4876
.20000E-05	170.706	176.606	172.900	160.718	122.325	122.133
31.558	170.706	176.606	172.900	160.718	122.326	122.133
.31558E+07	194.902	199.668	195.462	183.499	146.590	146.393
.63116E+07	200.434	204.946	200.645	188.749	152.222	152.024
.94673E+07	203.759	208.119	203.778	191.945	155.745	155.546
.12623E+08	206.204	210.457	206.094	194.320	158.394	158.196
.15779E+08	208.100	212.252	207.874	196.165	160.496	160.298
.18935E+08	209.659	213.734	209.347	197.696	162.256	162.059
.22090E+08	210.953	214.961	210.569	198.975	163.750	163.553
.25246E+08	212.011	215.961	211.567	200.028	165.001	164.805
.28402E+08	212.914	216.812	212.419	200.933	166.097	165.901
.31558E+08	213.710	217.561	213.171	201.737	167.083	166.887
.63115E+08	218.184	221.732	217.407	206.387	173.168	172.977
.94673E+08	219.577	222.951	218.718	208.036	175.947	175.762
.12623E+09	219.973	223.228	219.088	208.691	177.533	177.353
.15779E+09	220.004	223.171	219.112	208.947	178.538	178.362
.18935E+09	219.231	222.319	218.366	208.469	178.913	178.742
.22090E+09	218.594	221.621	217.752	208.064	179.169	179.002
.25246E+09	217.890	220.862	217.074	207.583	179.311	179.148
.28402E+09	216.546	219.484	215.779	206.469	178.758	178.599
.31558E+09	215.443	218.356	214.718	205.552	178.286	178.129
.63115E+09	201.197	203.887	200.925	193.185	170.260	170.131
.94673E+09	187.070	189.590	187.160	180.530	160.859	160.752
.12623E+10	173.971	176.364	174.357	168.593	151.433	151.342
.15779E+10	162.687	164.947	163.279	158.237	143.188	143.110
.18935E+10	153.413	155.538	154.122	149.652	136.316	136.248
.22090E+10	145.678	147.658	146.434	142.444	130.529	130.470
.25246E+10	138.732	140.582	139.515	135.921	125.176	125.124
.28402E+10	133.252	134.989	134.042	130.766	120.959	120.911
.31558E+10	128.562	130.189	129.344	126.351	117.378	117.335
.63115E+10	105.933	107.014	106.583	104.823	99.5183	99.4941
.94673E+10	97.5514	98.4240	98.1081	96.7450	92.6320	92.6137
.12623E+11	92.7756	93.5205	93.2655	92.1278	88.6909	88.6758
.15779E+11	89.4013	90.0578	89.8419	88.8548	85.8700	85.8569
.18935E+11	86.3574	86.9448	86.7602	85.8921	83.2641	83.2527
.22090E+11	83.8894	84.4204	84.2581	83.4817	81.1294	81.1193
.25246E+11	81.7603	82.2430	82.1001	81.4024	79.2870	79.2780
.28402E+11	79.9613	80.4048	80.2769	79.6419	77.7151	77.7069
.31558E+11	78.4508	78.8612	78.7456	78.1629	76.3934	76.3859

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:20 JUN 13, 1995 CP= 69137.680
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4057 TEMP	3993 TEMP	4484 TEMP
	i04i090	i04o090	o04o090
.10000E-05	28.5099	27.5717	26.1414
.20000E-05	71.8431	70.7487	69.1943
31.558	71.8431	70.7487	69.1943
.31558E+07	101.110	99.9220	98.2623
.63116E+07	107.919	106.720	105.065
.94673E+07	112.308	111.106	109.459
.12623E+08	115.650	114.446	112.806
.15779E+08	118.344	117.142	115.511
.18935E+08	120.620	119.418	117.795
.22090E+08	122.572	121.373	119.757
.25246E+08	124.231	123.035	121.426
.28402E+08	125.702	124.509	122.908
.31558E+08	127.039	125.850	124.255
.63115E+08	135.629	134.472	132.937
.94673E+08	140.127	139.004	137.520

.12623E+09	143.035	141.942	140.501
.15779E+09	145.067	143.998	142.593
.18935E+09	146.529	145.491	144.128
.22090E+09	147.619	146.606	145.274
.25246E+09	148.535	147.544	146.243
.28402E+09	148.623	147.654	146.382
.31558E+09	148.655	147.704	146.455
.63115E+09	145.283	144.506	143.480
.94673E+09	139.228	138.583	137.722
.12623E+10	132.345	131.801	131.066
.15779E+10	126.282	125.818	125.186
.18935E+10	121.195	120.794	120.242
.22090E+10	116.909	116.559	116.072
.25246E+10	112.801	112.492	112.058
.28402E+10	109.600	109.322	108.930
.31558E+10	106.940	106.690	106.333
.63115E+10	93.2167	93.0797	92.8805
.94673E+10	87.7008	87.5983	87.4475
.12623E+11	84.5476	84.4636	84.3393
.15779E+11	82.2563	82.1844	82.0774
.18935E+11	80.0713	80.0089	79.9157
.22090E+11	78.2614	78.2061	78.1235
.25246E+11	76.7012	76.6520	76.5780
.28402E+11	75.3547	75.3102	75.2434
.31558E+11	74.2217	74.1812	74.1199

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 69137.840 TIME= 00:44:20
 NSOL command erases all previously stored or calculated data
 unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 91 ITEM= TEMP COMP= NAME= h01o135
 VARIABLE 4 IS AT NODE 16 ITEM= TEMP COMP= NAME= s01o135
 VARIABLE 5 IS AT NODE 362 ITEM= TEMP COMP= NAME= t01o135
 VARIABLE 6 IS AT NODE 3770 ITEM= TEMP COMP= NAME= ts1o135
 VARIABLE 7 IS AT NODE 1790 ITEM= TEMP COMP= NAME= t07i135
 VARIABLE 8 IS AT NODE 1565 ITEM= TEMP COMP= NAME= s07i135
 VARIABLE 9 IS AT NODE 1649 ITEM= TEMP COMP= NAME= h07i135
 VARIABLE 10 IS AT NODE 1705 ITEM= TEMP COMP= NAME= c07i135
 VARIABLE 11 IS AT NODE 1760 ITEM= TEMP COMP= NAME= h07o135
 VARIABLE 12 IS AT NODE 1580 ITEM= TEMP COMP= NAME= s07o135
 VARIABLE 13 IS AT NODE 1848 ITEM= TEMP COMP= NAME= g07i135
 VARIABLE 14 IS AT NODE 3603 ITEM= TEMP COMP= NAME= g07o135
 VARIABLE 15 IS AT NODE 4085 ITEM= TEMP COMP= NAME= i07i135
 VARIABLE 16 IS AT NODE 4025 ITEM= TEMP COMP= NAME= i07o135
 VARIABLE 17 IS AT NODE 4713 ITEM= TEMP COMP= NAME= o07o135
 Add centers of assemblies 9 and 10
 VARIABLE 18 IS AT NODE 3053 ITEM= TEMP COMP= NAME= c09i135
 VARIABLE 19 IS AT NODE 2042 ITEM= TEMP COMP= NAME= c10i135

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i135	79.87	.3156E+11	240.7	.9467E+08
3 NSOL	91 TEMP	h01o135	79.26	.3156E+11	232.4	.1262E+09
4 NSOL	16 TEMP	s01o135	78.22	.3156E+11	217.8	.1578E+09
5 NSOL	362 TEMP	t01o135	78.18	.3156E+11	216.9	.1578E+09
6 NSOL	3770 TEMP	ts1o135	78.17	.3156E+11	216.9	.1578E+09
7 NSOL	1790 TEMP	t07i135	78.17	.3156E+11	216.9	.1578E+09
8 NSOL	1565 TEMP	s07i135	78.12	.3156E+11	215.9	.1578E+09
9 NSOL	1649 TEMP	h07i135	78.88	.3156E+11	226.0	.1262E+09
10 NSOL	1705 TEMP	c07i135	79.63	.3156E+11	234.7	.9467E+08
11 NSOL	1760 TEMP	h07o135	78.95	.3156E+11	223.4	.1262E+09
12 NSOL	1580 TEMP	s07o135	77.32	.3156E+11	196.2	.1578E+09
13 NSOL	1848 TEMP	g07i135	77.24	.3156E+11	194.7	.1578E+09
14 NSOL	3603 TEMP	g07o135	77.10	.3156E+11	192.0	.1578E+09
15 NSOL	4085 TEMP	i07i135	27.78	.1000E-05	147.7	.3156E+09
16 NSOL	4025 TEMP	i07o135	26.97	.1000E-05	146.9	.3156E+09
17 NSOL	4713 TEMP	o07o135	26.14	.1000E-05	146.1	.3156E+09
18 NSOL	3053 TEMP	c09i135	78.23	.3156E+11	209.9	.1578E+09
19 NSOL	2042 TEMP	c10i135	78.22	.3156E+11	209.9	.1578E+09
20 NSOL	4057 TEMP	i04i090	28.51	.1000E-05	148.7	.3156E+09
21 NSOL	3993 TEMP	i04o090	27.57	.1000E-05	147.7	.3156E+09
22 NSOL	4484 TEMP	o04o090	26.14	.1000E-05	146.5	.3156E+09

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:23 JUN 13, 1995 CP= 69140.500
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i135	91 TEMP h01o135	16 TEMP s01o135	362 TEMP t01o135	3770 TEMP ts1o135	1790 TEMP t07i135
.10000E-05	163.607	151.611	130.031	128.935	128.908	128.886
.20000E-05	197.052	186.374	167.029	165.966	165.939	165.918
31.558	197.052	186.374	167.029	165.966	165.939	165.918
.31558E+07	219.658	209.767	191.723	190.649	190.622	190.600
.63116E+07	224.788	215.098	197.396	196.329	196.302	196.281
.94673E+07	227.824	218.268	200.811	199.752	199.725	199.703
.12623E+08	230.040	220.590	203.327	202.274	202.248	202.226
.15779E+08	231.723	222.368	205.278	204.231	204.205	204.184
.18935E+08	233.102	223.828	206.886	205.845	205.819	205.797
.22090E+08	234.231	225.030	208.222	207.187	207.161	207.140
.25246E+08	235.139	226.004	209.316	208.286	208.260	208.239
.28402E+08	235.902	226.827	210.250	209.225	209.199	209.178
.31558E+08	236.566	227.548	211.076	210.055	210.029	210.009
.63115E+08	240.048	231.445	215.741	214.761	214.736	214.716
.94673E+08	240.706	232.398	217.247	216.299	216.275	216.255
.12623E+09	240.510	232.436	217.723	216.802	216.778	216.759
.15779E+09	240.069	232.179	217.813	216.914	216.891	216.872
.18935E+09	238.770	231.081	217.095	216.220	216.198	216.180
.22090E+09	237.725	230.191	216.500	215.645	215.623	215.605
.25246E+09	236.638	229.249	215.834	214.997	214.976	214.959
.28402E+09	234.957	227.693	214.515	213.695	213.674	213.658
.31558E+09	233.588	226.423	213.432	212.626	212.606	212.590
.63115E+09	216.767	210.549	199.365	198.692	198.675	198.662
.94673E+09	200.688	195.183	185.377	184.804	184.789	184.778
.12623E+10	186.027	181.107	172.396	171.900	171.888	171.878
.15779E+10	173.408	168.999	161.235	160.804	160.794	160.785
.18935E+10	163.043	159.059	152.076	151.697	151.688	151.680
.22090E+10	154.390	150.768	144.449	144.112	144.103	144.097

.25246E+10	146.659	143.348	137.594	137.291	137.283	137.277
.28402E+10	140.538	137.485	132.192	131.916	131.909	131.904
.31558E+10	135.268	132.451	127.575	127.323	127.316	127.311
.63115E+10	110.021	108.280	105.300	105.152	105.149	105.146
.94673E+10	100.765	99.3903	97.0475	96.9335	96.9307	96.9285
.12623E+11	95.4799	94.3208	92.3493	92.2541	92.2518	92.2499
.15779E+11	91.7612	90.7487	89.0285	88.9459	88.9439	88.9423
.18935E+11	88.4455	87.5487	86.0270	85.9544	85.9526	85.9512
.22090E+11	85.7644	84.9586	83.5922	83.5273	83.5257	83.5244
.25246E+11	83.4523	82.7246	81.4918	81.4335	81.4321	81.4309
.28402E+11	81.5066	80.8416	79.7157	79.6625	79.6612	79.6602
.31558E+11	79.8735	79.2609	78.2244	78.1756	78.1744	78.1735

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:23 JUN 13, 1995 CP= 69140.520
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1565 TEMP s07i135	1649 TEMP h07i135	1705 TEMP c07i135	1760 TEMP h07o135	1580 TEMP s07o135	1848 TEMP g07i135
.10000E-05	127.616	143.843	159.153	145.647	110.120	108.370
.20000E-05	164.719	178.906	191.821	178.728	145.020	143.305
.31558E+07	164.719	178.905	191.821	178.728	145.021	143.305
.63116E+07	189.416	202.269	213.614	200.676	168.013	166.310
.94673E+07	195.110	207.662	218.647	205.798	173.447	171.750
.12623E+08	198.544	210.889	221.645	208.870	176.791	175.102
.15779E+08	201.077	213.257	223.838	211.130	179.286	177.607
.18935E+08	203.043	215.078	225.508	212.866	181.245	179.574
.22090E+08	204.665	216.577	226.879	214.298	182.874	181.212
.25246E+08	206.015	217.817	228.006	215.482	184.246	182.592
.28402E+08	207.120	218.825	228.915	216.445	185.381	183.735
.31558E+08	208.066	219.681	229.681	217.264	186.363	184.725
.63115E+08	208.903	220.434	230.351	217.984	187.242	185.611
.94673E+08	213.658	224.595	233.936	221.988	192.483	190.913
.12623E+09	215.234	225.761	234.727	223.126	194.591	193.072
.15779E+09	215.768	225.977	234.662	223.355	195.622	194.145
.18935E+09	215.905	225.866	234.334	223.268	196.179	194.738
.22090E+09	215.239	224.935	233.180	222.394	196.039	194.638
.25246E+09	214.685	224.176	232.249	221.682	195.898	194.528
.28402E+09	214.058	223.356	231.270	220.911	195.665	194.324
.31558E+09	212.775	221.915	229.705	219.537	194.775	193.463
.63115E+09	211.721	220.735	228.428	218.413	194.036	192.745
.94673E+09	197.928	205.746	212.521	204.014	183.400	182.322
.12623E+10	184.145	191.043	197.134	189.789	172.051	171.136
.15779E+10	171.326	177.500	183.033	176.620	161.134	160.347
.18935E+10	160.303	165.842	170.866	165.234	151.642	150.960
.22090E+10	151.253	156.261	160.846	155.839	143.771	143.172
.25246E+10	143.715	148.259	152.458	147.965	137.162	136.629
.28402E+10	136.932	141.084	144.948	140.890	131.137	130.660
.31558E+10	131.589	135.417	138.998	135.291	126.380	125.946
.63115E+10	127.023	130.556	133.876	130.481	122.320	121.924
.94673E+10	104.975	107.156	109.252	107.232	102.383	102.153
.12623E+11	96.7956	98.5154	100.181	98.6069	94.8356	94.6589
.15779E+11	92.1388	93.5881	94.9964	93.6784	90.5217	90.3745
.18935E+11	88.8458	90.1118	91.3446	90.1984	87.4542	87.3266
.22090E+11	85.8664	86.9880	88.0826	87.0721	84.6538	84.5418
.25246E+11	83.4486	84.4565	85.4416	84.5365	82.3706	82.2705
.28402E+11	81.3628	82.2729	83.1638	82.3490	80.3999	80.3101
.31558E+11	79.5982	80.4299	81.2450	80.5023	78.7261	78.6445
	78.1165	78.8825	79.6341	78.9514	77.3194	77.2445

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 00:44:23 JUN 13, 1995 CP= 69140.530
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3603 TEMP g07o135	4085 TEMP 107i135	4025 TEMP 107o135	4713 TEMP o07o135	3053 TEMP c09i135	2042 TEMP c10i135
.10000E-05	105.009	27.7836	26.9684	26.1414	129.543	129.718
.20000E-05	139.994	71.1075	70.1388	69.1674	162.764	162.960
31.558	139.994	71.1075	70.1388	69.1674	162.764	162.960
.31558E+07	163.042	99.8105	98.7572	97.6998	184.939	184.917
.63116E+07	168.497	106.634	105.570	104.506	190.117	190.098
.94673E+07	171.866	111.039	109.971	108.907	193.274	193.258
.12623E+08	174.387	114.395	113.326	112.261	195.622	195.609
.15779E+08	176.371	117.103	116.033	114.973	197.438	197.427
.18935E+08	178.024	119.389	118.320	117.262	198.947	198.939
.22090E+08	179.418	121.354	120.286	119.231	200.207	200.201
.25246E+08	180.575	123.022	121.957	120.904	201.240	201.235
.28402E+08	181.579	124.498	123.435	122.386	202.128	202.122
.31558E+08	182.479	125.843	124.783	123.737	202.916	202.911
.63115E+08	187.894	134.489	133.458	132.444	207.466	207.465
.94673E+08	190.149	139.030	138.029	137.045	209.054	209.054
.12623E+09	191.303	141.973	140.999	140.042	209.664	209.664
.15779E+09	191.963	144.032	143.080	142.145	209.887	209.887
.18935E+09	191.941	145.522	144.598	143.690	209.374	209.373
.22090E+09	191.892	146.635	145.732	144.846	208.944	208.942
.25246E+09	191.746	147.571	146.689	145.822	208.439	208.436
.28402E+09	190.937	147.682	146.819	145.972	207.310	207.308
.31558E+09	190.262	147.732	146.885	146.053	206.381	206.379
.63115E+09	180.257	144.504	143.814	143.135	193.896	193.886
.94673E+09	169.385	138.553	137.981	137.417	181.162	181.144
.12623E+10	158.836	131.755	131.272	130.796	169.166	169.145
.15779E+10	149.648	125.759	125.349	124.943	158.749	158.723
.18935E+10	142.018	120.725	120.371	120.020	150.112	150.083
.22090E+10	135.605	116.484	116.175	115.867	142.859	142.829
.25246E+10	129.741	112.414	112.141	111.869	136.303	136.272
.28402E+10	125.112	109.241	108.997	108.753	131.119	131.087
.31558E+10	121.164	106.607	106.388	106.167	126.675	126.643
.63115E+10	101.715	93.0110	92.8914	92.7712	105.026	104.998
.94673E+10	94.3219	87.5384	87.4491	87.3591	96.9033	96.8790
.12623E+11	90.0946	84.4103	84.3373	84.2636	92.2609	92.2393
.15779E+11	87.0845	82.1363	82.0739	82.0107	88.9709	88.9514
.18935E+11	84.3297	79.9660	79.9119	79.8571	85.9957	85.9783
.22090E+11	82.0812	78.1671	78.1192	78.0709	83.5749	83.5592
.25246E+11	80.1403	76.6159	76.5733	76.5300	81.4866	81.4720
.28402E+11	78.4903	75.2765	75.2380	75.1992	79.7188	79.7051
.31558E+11	77.1032	74.1491	74.1141	74.0785	78.2334	78.2204

* Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i180

*** WARNING *** CP= 69140.690 TIME= 00:44:23
NSOL command erases all previously stored or calculated data
unless STORE, MERGE is used.

VARIABLE 3 IS AT NODE 13 ITEM= TEMP COMP= NAME= h01o180

VARIABLE 4 IS AT NODE 2 ITEM= TEMP COMP= NAME= s01o180

VARIABLE 5 IS AT NODE 390 ITEM= TEMP COMP= NAME= t01o180

VARIABLE 6 IS AT NODE 3759 ITEM= TEMP COMP= NAME= ts5i180

VARIABLE 7 IS AT NODE 636 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 8 IS AT NODE 516 ITEM= TEMP COMP= NAME= s05i180
 VARIABLE 9 IS AT NODE 520 ITEM= TEMP COMP= NAME= h05i180
 VARIABLE 10 IS AT NODE 524 ITEM= TEMP COMP= NAME= c05i180
 VARIABLE 11 IS AT NODE 528 ITEM= TEMP COMP= NAME= h05o180
 VARIABLE 12 IS AT NODE 517 ITEM= TEMP COMP= NAME= s05o180
 VARIABLE 13 IS AT NODE 680 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 14 IS AT NODE 872 ITEM= TEMP COMP= NAME= s03i180
 VARIABLE 15 IS AT NODE 876 ITEM= TEMP COMP= NAME= h03i180
 VARIABLE 16 IS AT NODE 880 ITEM= TEMP COMP= NAME= c03i180
 VARIABLE 17 IS AT NODE 883 ITEM= TEMP COMP= NAME= h03o180
 VARIABLE 18 IS AT NODE 873 ITEM= TEMP COMP= NAME= s03o180
 VARIABLE 19 IS AT NODE 1036 ITEM= TEMP COMP= NAME= t03o180
 VARIABLE 20 IS AT NODE 4105 ITEM= TEMP COMP= NAME= i03i180
 VARIABLE 21 IS AT NODE 3992 ITEM= TEMP COMP= NAME= i03o180
 VARIABLE 22 IS AT NODE 4679 ITEM= TEMP COMP= NAME= o03o180

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i180	79.87	.3156E+11	240.7	.9467E+08
3	NSOL	13 TEMP	h01o180	79.40	.3156E+11	234.2	.9467E+08
4	NSOL	2 TEMP	s01o180	78.28	.3156E+11	218.9	.1578E+09
5	NSOL	390 TEMP	t01o180	78.28	.3156E+11	218.9	.1578E+09
6	NSOL	3759 TEMP	ts5i180	78.28	.3156E+11	218.9	.1578E+09
7	NSOL	636 TEMP	t05i180	78.28	.3156E+11	218.9	.1578E+09
8	NSOL	516 TEMP	s05i180	78.28	.3156E+11	218.9	.1578E+09
9	NSOL	520 TEMP	h05i180	79.30	.3156E+11	232.4	.1262E+09
10	NSOL	524 TEMP	c05i180	79.72	.3156E+11	237.7	.9467E+08
11	NSOL	528 TEMP	h05o180	79.32	.3156E+11	232.0	.1262E+09
12	NSOL	517 TEMP	s05o180	78.43	.3156E+11	220.0	.1578E+09
13	NSOL	680 TEMP	t05i180	78.43	.3156E+11	219.9	.1578E+09
14	NSOL	872 TEMP	s03i180	78.43	.3156E+11	219.9	.1578E+09
15	NSOL	876 TEMP	h03i180	78.85	.3156E+11	223.5	.1262E+09
16	NSOL	880 TEMP	c03i180	78.76	.3156E+11	219.9	.1578E+09
17	NSOL	883 TEMP	h03o180	78.22	.3156E+11	210.7	.1578E+09
18	NSOL	873 TEMP	s03o180	76.59	.3156E+11	183.7	.2525E+09
19	NSOL	1036 TEMP	t03o180	76.58	.3156E+11	183.6	.2525E+09
20	NSOL	4105 TEMP	i03i180	28.07	.1000E-05	147.4	.3156E+09
21	NSOL	3992 TEMP	i03o180	27.38	.1000E-05	146.7	.3156E+09
22	NSOL	4679 TEMP	o03o180	26.14	.1000E-05	145.7	.3156E+09

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.820
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i180	13 TEMP h01o180	2 TEMP s01o180	390 TEMP t01o180	3759 TEMP ts5i180	636 TEMP t05i180
.10000E-05	163.607	154.394	131.456	131.362	131.361	131.369
.20000E-05	197.052	188.811	168.425	168.334	168.334	168.341
31.558	197.052	188.811	168.426	168.334	168.334	168.341
.31558E+07	219.658	211.949	193.058	192.969	192.969	192.976
.63116E+07	224.788	217.230	198.724	198.636	198.636	198.643
.94673E+07	227.824	220.366	202.132	202.044	202.044	202.051
.12623E+08	230.040	222.661	204.641	204.553	204.553	204.561
.15779E+08	231.723	224.417	206.585	206.498	206.498	206.505
.18935E+08	233.102	225.857	208.186	208.100	208.100	208.107
.22090E+08	234.231	227.042	209.516	209.430	209.431	209.438
.25246E+08	235.139	228.000	210.604	210.519	210.519	210.526
.28402E+08	235.902	228.808	211.532	211.447	211.447	211.454
.31558E+08	236.566	229.516	212.352	212.267	212.267	212.274
.63115E+08	240.048	233.317	216.970	216.889	216.889	216.895
.94673E+08	240.706	234.203	218.436	218.357	218.357	218.364
.12623E+09	240.510	234.189	218.878	218.802	218.802	218.808
.15779E+09	240.069	233.892	218.940	218.866	218.866	218.872
.18935E+09	238.770	232.750	218.189	218.117	218.117	218.123
.22090E+09	237.725	231.826	217.569	217.498	217.498	217.504
.25246E+09	236.638	230.853	216.879	216.810	216.810	216.815
.28402E+09	234.957	229.270	215.538	215.470	215.470	215.476
.31558E+09	233.588	227.979	214.438	214.371	214.371	214.377
.63115E+09	216.767	211.907	200.199	200.143	200.143	200.148
.94673E+09	200.688	196.389	186.081	186.034	186.034	186.038
.12623E+10	186.027	182.190	173.001	172.960	172.960	172.963
.15779E+10	173.408	169.973	161.758	161.722	161.722	161.725
.18935E+10	163.043	159.942	152.533	152.502	152.502	152.505
.22090E+10	154.390	151.572	144.854	144.826	144.826	144.828
.25246E+10	146.659	144.084	137.956	137.931	137.931	137.933
.28402E+10	140.538	138.165	132.521	132.498	132.498	132.500
.31558E+10	135.268	133.078	127.874	127.853	127.853	127.855
.63115E+10	110.021	108.670	105.471	105.459	105.459	105.460
.94673E+10	100.765	99.6980	97.1790	97.1698	97.1698	97.1705
.12623E+11	95.4799	94.5804	92.4588	92.4510	92.4511	92.4517
.15779E+11	91.7612	90.9756	89.1234	89.1167	89.1167	89.1172
.18935E+11	88.4455	87.7499	86.1102	86.1044	86.1044	86.1048
.22090E+11	85.7644	85.1394	83.6668	83.6615	83.6615	83.6619
.25246E+11	83.4523	82.8880	81.5586	81.5539	81.5539	81.5543
.28402E+11	81.5066	80.9909	79.7765	79.7722	79.7722	79.7725
.31558E+11	79.8735	79.3984	78.2800	78.2761	78.2761	78.2764

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.830
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	516 TEMP s05i180	520 TEMP h05i180	524 TEMP c05i180	528 TEMP h05o180	517 TEMP s05o180	680 TEMP t05i180
.10000E-05	131.454	152.548	160.773	152.925	134.890	134.829
.20000E-05	168.423	186.975	194.148	187.045	171.067	171.007
31.558	168.423	186.975	194.147	187.045	171.068	171.007
.31558E+07	193.055	209.971	216.403	209.680	194.852	194.793
.63116E+07	198.721	215.257	221.528	214.915	200.389	200.329
.94673E+07	202.129	218.403	224.572	218.036	203.721	203.662
.12623E+08	204.637	220.707	226.795	220.322	206.169	206.111
.15779E+08	206.581	222.471	228.488	222.072	208.070	208.012
.18935E+08	208.183	223.918	229.876	223.508	209.632	209.574
.22090E+08	209.513	225.111	231.015	224.693	210.930	210.872
.25246E+08	210.600	226.076	231.932	225.650	211.988	211.931

.28402E+08	211.529	226.892	232.704	226.459	212.891	212.834
.31558E+08	212.348	227.607	233.378	227.169	213.688	213.631
.63115E+08	216.966	231.472	236.955	231.012	218.169	218.114
.94673E+08	218.432	232.413	237.699	231.954	219.564	219.511
.12623E+09	218.875	232.447	237.581	231.995	219.962	219.911
.15779E+09	218.937	232.188	237.203	231.744	219.994	219.943
.18935E+09	218.186	231.091	235.980	230.662	219.218	219.169
.22090E+09	217.566	230.204	234.995	229.786	218.580	218.532
.25246E+09	216.876	229.264	233.963	228.857	217.874	217.827
.28402E+09	215.535	227.714	232.339	227.324	216.531	216.485
.31558E+09	214.435	226.449	231.016	226.072	215.429	215.384
.63115E+09	200.197	210.628	214.627	210.375	201.170	201.133
.94673E+09	186.080	195.295	198.864	195.132	187.031	186.999
.12623E+10	173.000	181.245	184.461	181.151	173.926	173.899
.15779E+10	161.757	169.153	172.054	169.105	162.637	162.613
.18935E+10	152.533	159.220	161.854	159.200	153.359	153.338
.22090E+10	144.853	150.927	153.330	150.923	145.621	145.603
.25246E+10	137.956	143.503	145.706	143.513	138.674	138.658
.28402E+10	132.520	137.635	139.671	137.652	133.194	133.179
.31558E+10	127.873	132.593	134.476	132.616	128.503	128.489
.63115E+10	105.471	108.385	109.558	108.419	105.884	105.876
.94673E+10	97.1789	99.4770	100.406	99.5078	97.5087	97.5026
.12623E+11	92.4587	94.3954	95.1793	94.4227	92.7376	92.7325
.15779E+11	89.1233	90.8149	91.5001	90.8394	89.3672	89.3627
.18935E+11	86.1102	87.6087	88.2164	87.6314	86.3271	86.3232
.22090E+11	83.6667	85.0131	85.5595	85.0340	83.8620	83.8585
.25246E+11	81.5586	82.7744	83.2681	82.7936	81.7350	81.7319
.28402E+11	79.7764	80.8874	81.3387	80.9051	79.9377	79.9348
.31558E+11	78.2800	79.3033	79.7191	79.3196	78.4283	78.4257

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.840
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	872 TEMP s03i180	876 TEMP h03i180	880 TEMP c03i180	883 TEMP h03o180	873 TEMP s03o180	1036 TEMP t03o180
.10000E-05	134.840	142.923	140.702	129.269	92.4343	92.2897
.20000E-05	171.015	177.254	174.253	163.146	128.438	128.286
31.558	171.015	177.254	174.253	163.146	128.438	128.286
.31558E+07	194.797	199.879	196.346	185.424	152.115	151.959
.63116E+07	200.333	205.162	201.536	190.681	157.748	157.592
.94673E+07	203.665	208.341	204.676	193.883	161.260	161.104
.12623E+08	206.114	210.684	206.994	196.261	163.894	163.738
.15779E+08	208.015	212.483	208.776	198.105	165.978	165.823
.18935E+08	209.577	213.966	210.249	199.634	167.720	167.565
.22090E+08	210.875	215.196	211.472	200.912	169.196	169.041
.25246E+08	211.934	216.196	212.469	201.959	170.427	170.272
.28402E+08	212.836	217.046	213.317	202.857	171.498	171.344
.31558E+08	213.633	217.796	214.068	203.655	172.463	172.309
.63115E+08	218.116	221.966	218.284	208.252	178.367	178.217
.94673E+08	219.513	223.181	219.574	209.851	180.985	180.839
.12623E+09	219.912	223.454	219.924	210.460	182.431	182.290
.15779E+09	219.945	223.393	219.932	210.679	183.322	183.183
.18935E+09	219.170	222.532	219.162	210.153	183.557	183.422
.22090E+09	218.533	221.829	218.530	209.712	183.706	183.575
.25246E+09	217.828	221.063	217.834	209.195	183.746	183.617
.28402E+09	216.486	219.683	216.527	208.053	183.103	182.977
.31558E+09	215.385	218.552	215.455	207.112	182.559	182.435
.63115E+09	201.135	204.039	201.533	194.482	173.796	173.694
.94673E+09	187.001	189.703	187.661	181.616	163.830	163.745
.12623E+10	173.902	176.451	174.779	169.518	153.972	153.901
.15779E+10	162.616	165.011	163.634	159.029	145.368	145.307

.18935E+10	153.341	155.584	154.423	150.339	138.212	138.159
.22090E+10	145.605	147.689	146.691	143.041	132.193	132.146
.25246E+10	138.660	140.603	139.738	136.449	126.654	126.612
.28402E+10	133.181	135.001	134.237	131.237	122.287	122.250
.31558E+10	128.491	130.193	129.514	126.771	118.576	118.541
.63115E+10	105.877	106.999	106.662	105.044	100.175	100.156
.94673E+10	97.5038	98.4075	98.1624	96.9073	93.1249	93.1103
.12623E+11	92.7336	93.5039	93.3072	92.2588	89.0945	89.0825
.15779E+11	89.3637	90.0420	89.8762	88.9660	86.2158	86.2055
.18935E+11	86.3241	86.9305	86.7897	85.9887	83.5655	83.5564
.22090E+11	83.8593	84.4071	84.2838	83.5672	81.3971	81.3890
.25246E+11	81.7326	82.2302	82.1221	81.4779	79.5251	79.5179
.28402E+11	79.9355	80.3924	80.2960	79.7094	77.9299	77.9234
.31558E+11	78.4263	78.8489	78.7620	78.2234	76.5884	76.5824

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 00:44:26 JUN 13, 1995 CP= 69143.860
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4105 TEMP i03i180	3992 TEMP i03o180	4679 TEMP o03o180
.10000E-05	28.0722	27.3828	26.1414
.20000E-05	71.2556	70.4659	69.1405
31.558	71.2556	70.4659	69.1405
.31558E+07	99.4123	98.5575	97.1372
.63116E+07	106.223	105.363	103.947
.94673E+07	110.624	109.762	108.355
.12623E+08	113.978	113.116	111.717
.15779E+08	116.685	115.823	114.434
.18935E+08	118.971	118.111	116.730
.22090E+08	120.937	120.079	118.705
.25246E+08	122.605	121.749	120.382
.28402E+08	124.079	123.225	121.865
.31558E+08	125.424	124.573	123.219
.63115E+08	134.076	133.251	131.951
.94673E+08	138.626	137.825	136.570
.12623E+09	141.579	140.799	139.583
.15779E+09	143.646	142.884	141.698
.18935E+09	145.143	144.403	143.252
.22090E+09	146.263	145.541	144.418
.25246E+09	147.204	146.498	145.401
.28402E+09	147.325	146.634	145.562
.31558E+09	147.382	146.705	145.651
.63115E+09	144.212	143.658	142.791
.94673E+09	138.303	137.842	137.113
.12623E+10	131.540	131.151	130.527
.15779E+10	125.571	125.239	124.700
.18935E+10	120.557	120.269	119.798
.22090E+10	116.331	116.079	115.662
.25246E+10	112.276	112.053	111.680
.28402E+10	109.114	108.914	108.576
.31558E+10	106.488	106.307	106.000
.63115E+10	92.9350	92.8356	92.6619
.94673E+10	87.4775	87.4030	87.2707
.12623E+11	84.3585	84.2973	84.1879
.15779E+11	82.0908	82.0383	81.9440
.18935E+11	79.9263	79.8807	79.7985
.22090E+11	78.1318	78.0913	78.0183
.25246E+11	76.5837	76.5477	76.4821
.28402E+11	75.2469	75.2143	75.1551
.31558E+11	74.1213	74.0916	74.0371

***** ROUTINE COMPLETED ***** CP = 69143.860

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21h.db
FOR POSSIBLE RESUME FROM THIS POINT

NUMBER OF WARNING MESSAGES ENCOUNTERED= 64
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0

```
*-----*
|
|               ANSYS RUN COMPLETED
|
|-----|
|
|      REV. 5.0 A                      HP 9000/7XX
|
| CP TIME      (sec) =      69148.070    TIME = 00:44:31
| ELAPSED TIME (sec) =      73748.000    DATE  = 06/13/95
|
|-----|
*
```

WELCOME TO THE ANSYS PROGRAM

***** ANSYS COMMAND LINE ARGUMENTS *****
 JOB NAME = ucf21ss
 MEMORY REQUESTED (MB) = 64.0
 BATCH MODE REQUESTED
 start.ans FILE

***** ANSYS DYNAMIC MEMORY ALLOCATION *****
 WORK SPACE REQUESTED = 16777216 64.000 MB COMMAND LINE
 MINIMUM WORK SPACE REQUIRED = 4718592 18.000 MB
 MINIMUM WORK SPACE RECOMMENDED = 6702496 25.568 MB
 WORK SPACE OBTAINED = 16777214 64.000 MB
 BYTES PER WORD = 4

***** NOTICE ***** THIS IS THE ANSYS GENERAL PURPOSE
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 RESULTS SHOULD BE IMMEDIATELY BROUGHT TO OUR ATTENTION.

ENTER /SHOW,device TO SET THE GRAPHICS DISPLAY TO device(e.g. X11,4207,ETC.)
 ENTER /MENU,ON TO START THE ANSYS MENU SYSTEM
 ENTER HELP FOR GENERAL ANSYS HELP INFORMATION

1	/COM,	*****	
2	/COM,	ANSYS REVISION 5.0A	6/10/1995
3	/COM,	2-D Model of 125 ton burnup credit UCF-DC	Thomas L. Lotz
4	/COM,	*****	
5	/COM,	*	*
6	/COM,	* File name: ucf21x.inp	*
7	/COM,	* 21 PWR UCF with High T.L. Disposal Container	*
8	/COM,	* Helium Fill Gas	*
9	/COM,	*	*
10	/COM,	* Material Property file: props01.dat	*
11	/COM,	*	*
12	/COM,	* SNF Conductivity file: pwr15e.parm	*
13	/COM,	* 15x15 Mark-B4 PWR SNF Assembly	*
14	/COM,	*	*
15	/COM,	* SNF Heat Loads file: snf1048.dat	*
16	/COM,	* SNF Type: 10 years old, 48086 Mwd/MTU	*
17	/COM,	*	*
18	/COM,	* Surface Temp. file: c21x5a.parm	*

```

19 /COM, *      100 MTU/acre (24.7 kgU/m^2) AML (High Thermal Loading) *
20 /COM, *      5.0 m Diameter Drift with Concrete Invert *
21 /COM, *      Drift spacing = 22.5 m *
22 /COM, *      WP c/c spacing = 16.164 m *
23 /COM, *
24 /COM, *****
25 /COM, Increase the number of database pages from 16 (256) to 32 Mb
26 /CONFIG,nvpag,512,
27 /COM, Work space must also be increased (-m 64)
28 /COM, *****
29 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
30 /UNITS,SI,
31 /COM, *****
32 /COM,      Read in average effective conductivities from SNF model
33 PARRES,CHANGE,pwr15e,parm,
34 /COM,      Read in surface temps. from repository model
35 PARRES,CHANGE,c21x5a,parm,
36 /COM, *****
37 /COM,
38 /COM,      Define Required Constants:
39 PI=3.141592654
40 /COM,
41 /COM,      Define UCF/waste package parameters
42 /COM,      (UCF dimensions converted from inches/cm/mm to meters were requi
43 /COM,      MIRAD = inner radius of UCF He Backfill shell (m) (NOT
44 /COM,      MWALL = UCF He Backfill shell thickness (m) (NOT
45 /COM,      DCRAD = disposal container outer radius (m)
46 /COM,      OWALL = outer barrier thickness (m)
47 /COM,      IWALL = inner barrier thickness (m)
48 /COM,      DCIRD = disposal container inner radius (m)
49 /COM,
50 /COM,      GCORN = corner guide width (m)
51 /COM,      GWALL = basket guide thickness (m)
52 /COM,      GLEN1 = side guide 1/3 width (m) (NOT USED)
53 /COM,      GLENT = side guide total width (m) (NOT USED)
54 /COM,
55 /COM,      HCELL = 1/2 of basket cell opening (m)
56 /COM,      SWALL = stainless tube thickness (m)
57 /COM,      TWALL = Aluminum thermal shunt thickness (m)
58 /COM,      AWALL = Al/boron tube thickness (m) (NOT USED)
59 /COM,
60 /COM,      ACTVL = active fuel length
61 /COM,      PEAKF = assembly heat axial peaking factor
62 /COM,
63 /COM,      MIRAD=1363.6/1000.0/2.0
64 /COM,      MWALL=1.0000*2.54/100.0
65 DCRAD=1.6290/2.0
66 OWALL=0.1000
67 IWALL=0.0200
68 DCIRD=DCRAD-OWALL-IWALL
69 /COM,
70 GCORN=233.5/1000.0
71 GWALL=9.5/1000.0
72 /COM,      GLEN1=9.6170*2.54/100.0
73 /COM,      GLENT=28.866*2.54/100.0
74 /COM,
75 HCELL=223.5/1000.0/2.0
76 SWALL=5.0/1000.0
77 TWALL=10.0/1000.0
78 /COM,      AWALL=0.2500*2.54/100.0
79 /COM,
80 ACTVL=141.8*2.54/100.0
81 PEAKF=1.25
82 /COM,      Define calculated parameters
83 /COM,      ASSY = assembly heat production (W) f(yrs)
84 /COM,      FUEL = volumetric heat production (W/m3) f(yrs)
85 /COM,      FVOLU = assy_volume=cell_width^2*active_length
86 /COM,
87 /COM,      PITCH = basket cell outer width (m)
88 /COM,      QCELL = 1/4 of basket cell opening (m)

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89 /COM,          SCCELL = 1/2 of basket cell opening+SS wall(m)
90 /COM,          ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)
91 /COM,
92 /COM,          GX## = x coord. of basket guide or thermal shunt/shell c
93 /COM,          GX## = y coord. of basket guide or thermal shunt/shell c
94 /COM,
95 /COM,          MI45 = x coord. MIRAD at 45 deg. (NOT USED)
96 /COM,          MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)
97 /COM,          DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.
98 /COM,          DM45 = x coord. DCRAD-OWALL at 45 deg.
99 /COM,          DO45 = x coord. DCRAD at 45 deg.
100 *SET,ASSY,
101 *DIM,ASSY, TABLE,101,1,
102 *DIM,FUEL, TABLE,101,1
103 FVOLUME=4*HCELL*HCELL*ACTVL
104 /COM,
105 PITCH=(HCELL+SWALL)*2.0
106 QCELL=HCELL/2.0
107 SCCELL=HCELL+SWALL
108 /COM,          ACELL=HCELL+SWALL+AWALL
109 /COM,
110 GX22=SCCELL
111 GY22=SQRT(DCIRD*DCIRD-GX22*GX22)
112 GX23=SCCELL+TWALL
113 GY23=SQRT(DCIRD*DCIRD-GX23*GX23)
114 GX24=PITCH+TWALL+SCCELL
115 GY24=SQRT(DCIRD*DCIRD-GX24*GX24)
116 GX25=GX23+PITCH+GWALL
117 GY25=SQRT(DCIRD*DCIRD-GX25*GX25)
118 /COM,
119 /COM,          MI45=MIRAD/SQRT(2.0)
120 /COM,          MO45=(MIRAD+MWALL)/SQRT(2.0)
121 DI45=DCIRD/SQRT(2.0)
122 DM45=(DCRAD-OWALL)/SQRT(2.0)
123 DO45=DCRAD/SQRT(2.0)
124 /COM,
125 /COM,          Define Transient Time parameters based upon the following:
126 /COM,          Note: 1 year = 3.15576e7 seconds
127 /COM,          TM_START = start time (sec)
128 /COM,          TMI* = time increment for solution (sec)
129 /COM,          TME* = start and stop for time do-loops (sec)
130 /COM,          TMTMAX = time of maximum cladding temperature
131 /COM,
132 TM_START=(1.0E-6)*(3.15576E7)
133 TMI0=0.1*3.15576E7
134 TMI1=1.0*3.15576E7
135 TMI10=10.0*3.15576E7
136 TMI100=100.0*3.15576E7
137 TMI1000=1000.0*3.15576E7
138 TME0=0.9*3.15576E7+TM_START
139 TME1=TMI1+TM_START
140 TME9=9.0*3.15576E7+TM_START
141 TME10=TMI10+TM_START
142 TME50=50.0*3.15576E7+TM_START
143 TME90=90.0*3.15576E7+TM_START
144 TME100=TMI100+TM_START
145 TME1000=TMI1000+TM_START
146 /COM,
147 /COM,          *****
148 /COM,          Define different element types
149 /PREP7
150 ETYPE
151 ET, 1,55,
152 ET, 2,70,
153 ET, 7,32,
154 ET, 16,57,
155 ET, 17,32,
156 ET, 18,50,1,
157 ET, 19,31,
158 ET, 27,32,

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159 /COM, *****
160 /COM,      File props01.dat describes material properties
161 /COM,      and thier reference numbers
162 MPREAD,props01,dat,
163 /COM,      Read in single assembly heat loads
164 /COM,      Calculate the volumetric heat generation
165 /COM,      (Assembly time is in years, FUEL is in seconds)
166 /INPUT,snf1048,dat
167 *VFACT,3.15576E7,
168 *MFUN,FUEL(1,0),COPY,ASSY(1,0),
169 *VFACT,(PEAKF/FVOLUME),
170 *VFUN,FUEL(1),COPY,ASSY(1),
171 FUEL(0,1)=1.0
172 /COM, *****
173 /COM,      Define new material 14 for SNF effective conductivity
174 /COM,      Density:      DENS      (kg/m^3)
175 /COM,      Conductivity: KXX      (W/m/K)
176 /COM,      Specific Heat: C      (J/kg/K)
177 MPTMP
178 MPTMP, 1, .00000E+00,
179 MPDATA,DENS,14, 1, .396004E+04,
180 MPDATA, C,14, 1, .27400E+03,
181 /COM,      Store average effective conductivities
182 IINC=1
183 TBSKT=25.0
184 MPTMP
185 MPTMP,IINC,TBSKT,
186 IINC=IINC+1
187 *DO,TBSKT,50.0,400.0,50.0,
188     MPTMP,IINC,TBSKT,
189     IINC=IINC+1
190 *ENDDO
191 IINC=1
192 TBSKT=25.0
193 MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
194 IINC=IINC+1
195 *DO,TBSKT,50.0,400.0,50.0,
196     MPDATA,KXX,14,IINC,KEFFAV(TBSKT),
197     IINC=IINC+1
198 *ENDDO
199 /COM, *****
200 /COM,      Construct geometry for Disposal Container
201 /COM,
202 /COM,      Define center and axis keypoints for waste package
203 /COM,      Also, create placeholder keypoints and lines
204 /COM,      (K's 1,2,3,4,5,6,7,8)
205 /COM,      (L's 1,2,3,4)
206 K,1,0.0,0.0,0.0,
207 K,2,0.0,0.0,1.0,
208 K,3,0.0,0.0,1.3,
209 K,4,0.0,0.0,1.4,
210 K,5,0.0,0.0,1.5,
211 K,6,0.0,0.0,1.6,
212 K,7,0.0,0.0,1.7,
213 K,8,0.0,0.0,1.8,
214 L,3,4,
215 L,4,5,
216 L,5,6,
217 L,6,7,
218 /COM,      Define disposal container outer radius and material interface
219 /COM,      (K's 9,10,11,12,13,14)
220 /COM,      (L's 5,6,7,8,9,10,11)
221 /COM,      (A's 1,2)
222 K, 9,      0.0,      (0.0-DCRAD),0.0,
223 K,10,      DCRAD,      0.0,0.0,
224 K,11,      0.0,      DCRAD,0.0,
225 K,12,      0.0,      (OWALL-DCRAD),0.0,
226 K,13,      (DCRAD-OWALL),      0.0,0.0,
227 K,14,      0.0,      (DCRAD-OWALL),0.0,
228 L,10,13,

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229 LARC,10, 9,1,          DCRAD,
230 LARC,11,10,1,         DCRAD,
231 LARC,13,12,1,         (DCRAD-OWALL),
232 LARC,14,13,1,         (DCRAD-OWALL),
233 L,11,14,
234 L, 9,12,
235 AL, 5, 6,11, 8,
236 AL,10, 7, 5, 9,
237 /COM, *****
238 /COM,          Define UCF shell inner edge and area
239 /COM,          (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
240 /COM,          ( 31,32,33)
241 /COM,          (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
242 /COM,          ( 28,29,30,31,32)
243 /COM,          (A's 3,4)
244 K,15, 0.0,          DCIRD,0.0,
245 K,16, GX22,          GY22,0.0,
246 K,17, GX23,          GY23,0.0,
247 K,18, GX24,          GY24,0.0,
248 K,19, GX25,          GY25,0.0,
249 K,20, GY25,          GX25,0.0,
250 K,21, GY24,          GX24,0.0,
251 K,22, GY23,          GX23,0.0,
252 K,23, GY22,          GX22,0.0,
253 K,24,DCIRD,          0.0,0.0,
254 K,25, GY22, (0.0-GX22),0.0,
255 K,26, GY23, (0.0-GX23),0.0,
256 K,27, GY24, (0.0-GX24),0.0,
257 K,28, GY25, (0.0-GX25),0.0,
258 K,29, GX25, (0.0-GY25),0.0,
259 K,30, GX24, (0.0-GY24),0.0,
260 K,31, GX23, (0.0-GY23),0.0,
261 K,32, GX22, (0.0-GY22),0.0,
262 K,33, 0.0,(0.0-DCIRD),0.0,
263 L,14,15,
264 LARC,16,15,1,DCIRD,
265 LARC,17,16,1,DCIRD,
266 LARC,18,17,1,DCIRD,
267 LARC,19,18,1,DCIRD,
268 LARC,20,19,1,DCIRD,
269 LARC,21,20,1,DCIRD,
270 LARC,22,21,1,DCIRD,
271 LARC,23,22,1,DCIRD,
272 LARC,24,23,1,DCIRD,
273 LARC,25,24,1,DCIRD,
274 LARC,26,25,1,DCIRD,
275 LARC,27,26,1,DCIRD,
276 LARC,28,27,1,DCIRD,
277 LARC,29,28,1,DCIRD,
278 LARC,30,29,1,DCIRD,
279 LARC,31,30,1,DCIRD,
280 LARC,32,31,1,DCIRD,
281 LARC,33,32,1,DCIRD,
282 L,33,12,
283 L,24,13,
284 LSEL,S,LINE,,12,21,
285 LSEL,A,LINE,, 9,
286 LSEL,A,LINE,,32,
287 AL,ALL,
288 LSEL,S,LINE,,22,31,
289 LSEL,A,LINE,, 8,
290 LSEL,A,LINE,,32,
291 AL,ALL,
292 LSEL,ALL,
293 /COM, *****
294 /COM,          Define tube guides
295 /COM,          (K's 34,35,36,37)
296 /COM,          (L's 33,34,35,36,37,38,39,40,41,42)
297 /COM,          (A's 5,6,7,8,9,10)
298 /COM,

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299 /COM,          top guide
300 K,34,          GX24,          GX24,0.0,
301 K,35,          GX25,          GX25,0.0,
302 L,19,35,
303 L,35,20,
304 L,21,34,
305 L,34,18,
306 /COM,          bottom guide
307 K,36,          GX25, (0.0-GX25),0.0,
308 K,37,          GX24, (0.0-GX24),0.0,
309 L,28,36,
310 L,36,29,
311 L,30,37,
312 L,37,27,
313 L,34,35,
314 L,37,36,
315 /COM,          Guide gaps
316 AL,17,33,34,
317 AL,26,37,38,
318 /COM,          Guide steel
319 AL,16,33,41,36,
320 AL,18,35,41,34,
321 AL,25,37,42,40,
322 AL,27,39,42,38,
323 /COM,          *****
324 /COM,          Define thermal shunts
325 /COM,          (K's 38,39,40,41,42,43,44,45,46,47,48,49,50)
326 /COM,          ( 51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)
327 /COM,          (L's 43,44,45,46,47,48,49)
328 /COM,          ( 50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)
329 /COM,          ( 67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)
330 /COM,          ( 84,85,86,87,88,89,90)
331 /COM,          (A's 11 - 27)
332 /COM,
333 /COM,          top horizontal thermal shunt
334 K,38,          0.0,          SCELL,0.0,
335 K,39,          0.0,          (SCELL+TWALL),0.0,
336 K,40,          SCELL,          SCELL,0.0,
337 K,41,          SCELL,          (SCELL+TWALL),0.0,
338 K,42,          (SCELL+TWALL), SCELL,0.0,
339 K,43,          (SCELL+TWALL), (SCELL+TWALL),0.0,
340 K,44,(SCELL+TWALL+1.0*PITCH), SCELL,0.0,
341 K,45,(SCELL+TWALL+1.0*PITCH), (SCELL+TWALL),0.0,
342 K,46,(SCELL+TWALL+2.0*PITCH), SCELL,0.0,
343 K,47,(SCELL+TWALL+2.0*PITCH), (SCELL+TWALL),0.0,
344 /COM,          bottom horizontal thermal shunt
345 K,48,          0.0,          (0.0-SCELL),0.0,
346 K,49,          0.0,          (0.0-SCELL-TWALL),0.0,
347 K,50,          SCELL,          (0.0-SCELL),0.0,
348 K,51,          SCELL,          (0.0-SCELL-TWALL),0.0,
349 K,52,          (SCELL+TWALL), (0.0-SCELL),0.0,
350 K,53,          (SCELL+TWALL), (0.0-SCELL-TWALL),0.0,
351 K,54,(SCELL+TWALL+1.0*PITCH), (0.0-SCELL),0.0,
352 K,55,(SCELL+TWALL+1.0*PITCH), (0.0-SCELL-TWALL),0.0,
353 K,56,(SCELL+TWALL+2.0*PITCH), (0.0-SCELL),0.0,
354 K,57,(SCELL+TWALL+2.0*PITCH), (0.0-SCELL-TWALL),0.0,
355 /COM,          right vertical thermal shunt
356 K,58,          SCELL,          (SCELL+TWALL+2.0*PITCH),0.0,
357 K,59,          (SCELL+TWALL), (SCELL+TWALL+2.0*PITCH),0.0,
358 K,60,          SCELL,          (SCELL+TWALL+1.0*PITCH),0.0,
359 K,61,          (SCELL+TWALL), (SCELL+TWALL+1.0*PITCH),0.0,
360 K,62,          SCELL,(0.0-SCELL-TWALL-1.0*PITCH),0.0,
361 K,63,          (SCELL+TWALL),(0.0-SCELL-TWALL-1.0*PITCH),0.0,
362 K,64,          SCELL,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
363 K,65,          (SCELL+TWALL),(0.0-SCELL-TWALL-2.0*PITCH),0.0,
364 /COM,          Lines; shunt widths, top, bottom, then vertical: (43-60)
365 L,38,39,
366 L,40,41,
367 L,42,43,
368 L,44,45,

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369 L,46,47,
370 L,48,49,
371 L,50,51,
372 L,52,53,
373 L,54,55,
374 L,56,57,
375 L,58,59,
376 L,60,61,
377 L,41,43,
378 L,40,42,
379 L,50,52,
380 L,51,53,
381 L,62,63,
382 L,64,65,
383 /COM, Lines; shunt edges, top, bottom, then vertical: (61-90)
384 L,39,41,
385 L,40,38,
386 L,43,45,
387 L,44,42,
388 L,45,47,
389 L,46,44,
390 L,47,22,
391 L,23,46,
392 L,48,50,
393 L,51,49,
394 L,52,54,
395 L,55,53,
396 L,54,56,
397 L,57,55,
398 L,56,25,
399 L,26,57,
400 L,58,16,
401 L,17,59,
402 L,60,58,
403 L,59,61,
404 L,41,60,
405 L,61,43,
406 L,50,40,
407 L,42,52,
408 L,62,51,
409 L,53,63,
410 L,64,62,
411 L,63,65,
412 L,32,64,
413 L,65,31,
414 /COM, define areas for thermal shunts
415 AL,43,61,44,62,
416 AL,44,55,45,56,
417 AL,45,63,46,64,
418 AL,46,65,47,66,
419 AL,47,67,20,68,
420 AL,48,69,49,70,
421 AL,49,57,50,58,
422 AL,50,71,51,72,
423 AL,51,73,52,74,
424 AL,52,75,23,76,
425 AL,14,77,53,78,
426 AL,53,79,54,80,
427 AL,54,81,55,82,
428 AL,56,83,57,84,
429 AL,58,85,59,86,
430 AL,59,87,60,88,
431 AL,60,89,29,90,
432 /COM, *****
433 /COM, Define shell gaps at the exterior of the tube array
434 /COM, (K's 66 - 67)
435 /COM, (L's 91 - 99)
436 /COM, (A's 28 - 34)
437 /COM,
438 K,66, 0.0, (SCCELL+TWALL+2.0*PITCH),0.0,

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439 K,67,          0.0,(0.0-SCELL-TWALL-2.0*PITCH),0.0,
440 /COM,
441 L,15,66,
442 L,66,58,
443 L,59,18,
444 L,21,47,
445 L,46,56,
446 L,57,27,
447 L,30,65,
448 L,64,67,
449 L,67,33,
450 /COM,
451 AL,13,91,92,77,
452 AL,15,78,93,
453 AL,19,94,67,
454 AL,21,68,95,75,22,
455 AL,24,76,96,
456 AL,28,97,90,
457 AL,30,89,98,99,
458 /COM, *****
459 /COM,          Define center half-tube
460 /COM,          (K's 68-75)
461 /COM,          (L's 100-110)
462 /COM,          (A's 35-38)
463 K,68,          0.0,          HCELL,0.0,
464 K,69,          HCELL,          HCELL,0.0,
465 K,70,          0.0,          (0.0-HCELL),0.0,
466 K,71,          HCELL,          (0.0-HCELL),0.0,
467 K,72,          0.0,          SCELL,0.0,
468 K,73,          SCELL,          SCELL,0.0,
469 K,74,          0.0,          (0.0-SCELL),0.0,
470 K,75,          SCELL,          (0.0-SCELL),0.0,
471 L,70,68,
472 L,70,74,
473 L,68,72,
474 L,71,75,
475 L,69,73,
476 L,75,74,
477 L,71,70,
478 L,68,69,
479 L,72,73,
480 L,69,71,
481 L,73,75,
482 AL,100,106,109,107,
483 AL,101,105,103,106,
484 AL,109,103,110,104,
485 AL,102,107,104,108,
486 /COM, *****
487 /COM,          Define center full-tube
488 /COM,          (K's 76 - 83)
489 /COM,          (L's 111 - 122)
490 /COM,          (A's 39 - 43)
491 K,76,          (PITCH+TWALL-HCELL),          HCELL,0.0,
492 K,77,          (PITCH+TWALL+HCELL),          HCELL,0.0,
493 K,78,          (PITCH+TWALL-HCELL),          (0.0-HCELL),0.0,
494 K,79,          (PITCH+TWALL+HCELL),          (0.0-HCELL),0.0,
495 K,80,          (PITCH+TWALL-SCELL),          SCELL,0.0,
496 K,81,          (PITCH+TWALL+SCELL),          SCELL,0.0,
497 K,82,          (PITCH+TWALL-SCELL),          (0.0-SCELL),0.0,
498 K,83,          (PITCH+TWALL+SCELL),          (0.0-SCELL),0.0,
499 L,78,82,
500 L,76,80,
501 L,79,83,
502 L,77,81,
503 L,83,82,
504 L,79,78,
505 L,76,77,
506 L,80,81,
507 L,82,80,
508 L,78,76,

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509 L,77,79,
510 L,81,83,
511 AL,120,116,121,117,
512 AL,119,111,120,112,
513 AL,111,115,113,116,
514 AL,121,113,122,114,
515 AL,112,117,114,118,
516 /COM, *****
517 /COM,          Set element shapes and sizes for tubes
518 /COM,          14x14 mesh in fuel with 2
519 /COM,          divisions per tube layer
520 ESHAPE,2,
521 ESIZE,,1,
522 LSEL,S,LINE,,115,122,1,
523 LSEL,A,LINE,,109,110,1,
524 LSEL,A,LINE,,100,
525 LESIZE,ALL,,, 14,
526 LSEL,S,LINE,,105,108,1,
527 LESIZE,ALL,,, 7,
528 LSEL,S,LINE,,101,104,1,
529 LSEL,A,LINE,,111,114,1,
530 LESIZE,ALL,,, 2,
531 LSEL,ALL,
532 /COM,
533 /COM,          Mesh areas
534 /COM,          first fuel, then stainless tubes
535 MAT,14,
536 TYPE,1,
537 AMESH,35,
538 AMESH,39,
539 MAT, 1,
540 TYPE,1,
541 AMESH,36,38,1,
542 AMESH,40,43,1,
543 /COM, *****
544 /COM,          Copy tube mesh
545 /COM,
546 /COM,          center half tube above and below
547 /COM,          (A's 44 - 47)
548 AGEN,2,35,38,1,0.0,(PITCH+TWALL),0.0,0,0,
549 /COM,          (A's 48 - 51)
550 AGEN,2,35,38,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
551 /COM,          (A's 52 - 55)
552 AGEN,2,35,38,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
553 /COM,          (A's 56 - 59)
554 AGEN,2,35,38,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
555 /COM,
556 /COM,          center full tube side, above, and below
557 /COM,          (A's 60 - 64 = Side)
558 AGEN,2,39,43,1,PITCH,0.0,0.0,0,0,
559 /COM,          (A's 65 - 69 = up 1)
560 AGEN,2,39,43,1,0.0,(PITCH+TWALL),0.0,0,0,
561 /COM,          (A's 70 - 74 = up 2)
562 AGEN,2,39,43,1,0.0,((2.0*PITCH)+TWALL),0.0,0,0,
563 /COM,          (A's 75 - 79 = down 1)
564 AGEN,2,39,43,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
565 /COM,          (A's 80 - 84 = down 2)
566 AGEN,2,39,43,1,0.0,(0.0-(2.0*PITCH)-TWALL),0.0,0,0,
567 /COM,          center full tube get corners
568 /COM,          (A's 85 - 89 = up corner)
569 AGEN,2,60,64,1,0.0,(PITCH+TWALL),0.0,0,0,
570 /COM,          (A's 90 - 94 = down corner)
571 AGEN,2,60,64,1,0.0,(0.0-PITCH-TWALL),0.0,0,0,
572 /COM,
573 NUMMRG,NODE,
574 NUMMRG,KP,
575 /COM, *****
576 /COM,          Create mesh in tube guides, thermal shunts
577 /COM,          Set mesh size for gaps.....
578 ESIZE,,2,

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579 LSEL,S,LINE,,41,60,1,
580 LSEL,A,LINE,,14,20,2,
581 LSEL,A,LINE,,23,29,2,
582 LESIZE,ALL,,, 2,
583 LSEL,S,LINE,,61,62,1,
584 LSEL,A,LINE,,69,70,1,
585 LSEL,A,LINE,,91,92,1,
586 LSEL,A,LINE,,98,99,1,
587 LSEL,A,LINE,,21,22,1,
588 LSEL,A,LINE,,77,78,1,
589 LSEL,A,LINE,,89,90,1,
590 LSEL,A,LINE,,67,68,1,
591 LSEL,A,LINE,,75,76,1,
592 LSEL,A,LINE,,13,
593 LSEL,A,LINE,,30,
594 LESIZE,ALL,,, 7,
595 LSEL,S,LINE,,63,66,1,
596 LSEL,A,LINE,,71,74,1,
597 LSEL,A,LINE,,79,88,1,
598 LSEL,A,LINE,,33,40,1,
599 LSEL,A,LINE,,93,97,1,
600 LSEL,A,LINE,,15,19,2,
601 LSEL,A,LINE,,24,28,2,
602 LESIZE,ALL,,, 14,
603 /COM, MESH CORNER GUIDES
604 ESHAPE,2,
605 ESIZE,,1,
606 MAT,2,
607 TYPE,1,
608 AMESH, 7,10,1,
609 /COM, MESH THERMAL SHUNTS
610 ESHAPE,2,
611 ESIZE,,1,
612 MAT,1,
613 TYPE,1,
614 AMESH,11,27,1,
615 /COM, *****
616 /COM, Create mesh in UCF inner shell
617 /COM, (L's 105,108)
618 LSEL,S,LINE,,13,21,1,
619 LCCAT,ALL,
620 LSEL,S,LINE,,22,30,1,
621 LCCAT,ALL,
622 LSEL,ALL,
623 LESIZE,8,,,64,
624 LESIZE,9,,,64,
625 LESIZE,12,,, 3,
626 LESIZE,31,,, 3,
627 MAT,2,
628 TYPE,1,
629 AMESH,3,4,1
630 /COM, Delete concatenated lines
631 /COM, (L's freed up 105,108)
632 /COM, LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES
633 /COM,
634 LSEL,S,LINE,,6,7,1,
635 LESIZE,ALL,,,64,
636 LSEL,ALL,
637 LESIZE, 5,,, 3,
638 LESIZE,10,,, 3,
639 LESIZE,11,,, 3,
640 MAT,3,
641 TYPE,1,
642 AMESH,1,2,1,
643 NUMMRG,NODE,
644 NUMMRG,KP,
645 /COM, *****
646 /COM, Create mesh in empty basket spaces
647 ESIZE,0.1,
648 ESHAPE,0,

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649 MAT,7,
650 TYPE,1,
651 AMESH, 5, 6,1,
652 AMESH,28,34,1,
653 NUMMRG,NODE,
654 NUMMRG,KP,
655 /COM, *****
656 /COM,          Create radiation surface elements
657 /COM,          Basket spaces
658 MAT,2,
659 TYPE,17,
660 LMESH,13,21,2,
661 LMESH,22,30,2,
662 LMESH,33,34,1,
663 LMESH,37,38,1,
664 MAT,1,
665 TYPE,17,
666 LMESH,92,98,1,
667 MAT,1,
668 TYPE,17,
669 LMESH,67,68,1,
670 LMESH,75,78,1,
671 LMESH,89,90,1,
672 /COM,
673 FINISH
674 /COM, *****
675 /COM,          Create element mesh plots to illustrate model
676 /COM,          View mesh for entire model
677 /RESET
678 /TRIAD,OFF,
679 /NUM, 1,
680 /PNUM,MAT, 1,
681 /TYPE,HIDP,
682 /GLINE,,0,
683 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
684 /TITLE, 21 PWR UCF/Waste Package - 1/2 FEM Model
685 /SHOW,meshfull,grph,1,8,
686 EPLOT
687 ESEL,U,MAT,, 7,
688 /SHOW,meshgap,grph,1,8,
689 EPLOT
690 /COM,          View mesh for radiation substructure
691 /PNUM,MAT, 0,
692 /PNUM,TYPE, 1,
693 ESEL,S,TYPE,,17,
694 /TITLE, 21 PWR UCF/Waste Package - Radiation Matrix
695 /SHOW,meshrad,grph,1,8,
696 EPLOT
697 ESEL,ALL,
698 /TITLE, 21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
699 /COM, *****
700 /COM,          Generate super-elements
701 /AUX12,
702 ESEL,S,TYPE,,17,
703 NSLE,S,
704 STEF,5.67E-8,
705 GEOM,1,0,
706 VTYPE,0,800,
707 WRITE,spaces,
708 ESEL,ALL,
709 NSEL,ALL,
710 FINISH
711 /PREP7,
712 TYPE,18,
713 SE,spaces,
714 /COM,          Delete radiation edge elements
715 LSEL,S,TYPE,,17,
716 LCLEAR,ALL,
717 LSEL,ALL,
718 FINISH

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719 /COM, *****
720 /COM,      Set solution parameters and apply B.C.'s
721 /COM,
722 /COM,      Solve steady-state for initial conditions
723 /COM,      with WP surface equal to drift ambient
724 /COM,      temperature from repository model.
725 /SOLU
726 ANTYPE,TRAN,NEW,
727 NROPT,AUTO,
728 TRNOPT,FULL,
729 TOFFST,273.15,
730 LSEL,S,LINE,,6,
731 LSEL,A,LINE,,7,
732 NSLL,S,1,
733 D,ALL,TEMP,DFAMBT,
734 LSEL,ALL,
735 NSEL,ALL,
736 ASEL,S,MAT,,14,
737 ESLA,S,
738 BFE,ALL,HGEN,,(FUEL(TM_START)),
739 ASEL,ALL,
740 ESEL,ALL,
741 TIMINT,OFF,
742 TIME,1e-6,
743 AUTOTS,ON,
744 KBC,0,
745 SOLVE
746 /COM,      Solve steady-state for initial conditions
747 /COM,      with WP surface temperatures from repository
748 /COM,      steady-state solution.
749 LSEL,S,LINE,,6,
750 LSEL,A,LINE,,7,
751 NSLL,S,1,
752 DDELE,ALL,TEMP,
753 LSEL,ALL,
754 NSEL,ALL,
755 DK,11,TEMP,(WPTOP(TM_START)),,1,
756 DK,10,TEMP,(WPSID(TM_START)),,1,
757 DK, 9,TEMP,(WPBOT(TM_START)),,1,
758 ASEL,S,MAT,,14,
759 ESLA,S,
760 BFE,ALL,HGEN,,(FUEL(TM_START)),
761 ASEL,ALL,
762 ESEL,ALL,
763 TIMINT,OFF,
764 TIME,2e-6,
765 AUTOTS,ON,
766 KBC,0,
767 SOLVE
768 /COM, *****
769 /COM,      Set time integration parameters
770 TIMINT,ON,
771 AUTOTS,ON,
772 /COM,      Time substep ranges from 10 sec to 1/4 loadstep
773 NSUBST,10,40,5,ON
774 /COM,      Begin Transient
775 /COM,      Apply loads and solve for 0 to .9 years
776 *DO,TM,TM_START,TMEO,TMIO
777     TIME,TM,
778     ASEL,S,MAT,,14,
779     ESLA,S,
780     BFE,ALL,HGEN,,(FUEL(TM)),
781     ASEL,ALL
782     ESEL,ALL
783     DK,11,TEMP,(WPTOP(TM)),,1,
784     DK,10,TEMP,(WPSID(TM)),,1,
785     DK, 9,TEMP,(WPBOT(TM)),,1,
786     SOLVE
787 *ENDDO
788 /COM,      Apply loads and solve for 1 to 9 years

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789 *DO,TM,TME1,TME9,TM1
790     TIME,TM,
791     ASEL,S,MAT,,14,
792     ESLA,S,
793     BFE,ALL,HGEN,,(FUEL(TM)),
794     ASEL,ALL
795     ESEL,ALL
796     DK,11,TEMP,(WPTOP(TM)),,1,
797     DK,10,TEMP,(WPSID(TM)),,1,
798     DK, 9,TEMP,(WPBOT(TM)),,1,
799     SOLVE
800 *ENDDO
801 /COM,          Apply loads and solve for 10 to 90 years
802 *DO,TM,TME10,TME90,TM110
803     TIME,TM,
804     ASEL,S,MAT,,14,
805     ESLA,S,
806     BFE,ALL,HGEN,,(FUEL(TM)),
807     ASEL,ALL
808     ESEL,ALL
809     DK,11,TEMP,(WPTOP(TM)),,1,
810     DK,10,TEMP,(WPSID(TM)),,1,
811     DK, 9,TEMP,(WPBOT(TM)),,1,
812     SOLVE
813 *ENDDO
814 /COM,          Apply loads and solve for 100 to 1000 years
815 *DO,TM,TME100,TME1000,TM1100
816     TIME,TM,
817     ASEL,S,MAT,,14,
818     ESLA,S,
819     BFE,ALL,HGEN,,(FUEL(TM)),
820     ASEL,ALL
821     ESEL,ALL
822     DK,11,TEMP,(WPTOP(TM)),,1,
823     DK,10,TEMP,(WPSID(TM)),,1,
824     DK, 9,TEMP,(WPBOT(TM)),,1,
825     SOLVE
826 *ENDDO
827 FINISH
828 SAVE,
829 /COM, *****
830 /COM,          Create element contour plots of solution results
831 /COM,
832 /COM,          Sort through solution results for time of max temp.
833 /POST26,
834 NSOL,2,(NODE(0.0,0.0,0.0)),TEMP,,peakclad,
835 STORE,NEW,
836 *GET,TMTMAX,VARI,2,EXTREM,TMAX,
837 FINISH
838 /POST1,
839 /COM,          Create temperature contour plots of WP at peak
840 /RESET
841 /TRIAD,OFF,
842 /NUM, 1,
843 /PNUM,MAT, 1,
844 /TYPE,HIDP,
845 /GLINE,-1,
846 /FOCUS,1,(WPRAD/10.0),0.0,0.0,0,
847 ESEL,U,MAT,,7,
848 SET,NEAR,,,,TMTMAX,
849 /TITLE, 21 PWR UCF/WP at Time of Peak Temp. (XTMTMAX/3.15576E7% years)
850 /SHOW,solupk,grph,0,8,
851 /CONTOUR,1,128,AUTO,
852 PLNSOL,TEMP,
853 /COM,          Create temperature contour plots at 10, 50, and 100 yrs
854 SET,NEAR,,,,TME10,
855 /TITLE, 21 PWR UCF/WP at 10 years
856 /SHOW,solu10,grph,0,8,
857 /CONTOUR,1,128,USER,
858 PLNSOL,TEMP,

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859 SET,NEAR,,,,TME50,
860 /TITLE, 21 PWR UCF/WP at 50 years
861 /SHOW,solu50,grph,0,8,
862 /CONTOUR,1,128,USER,
863 PLNSOL,TEMP,
864 SET,NEAR,,,,TME100,
865 /TITLE, 21 PWR UCF/WP at 100 years
866 /SHOW,solu100,grph,0,8,
867 /CONTOUR,1,128,USER,
868 PLNSOL,TEMP,
869 ESEL,ALL,
870 FINISH
871 /COM, *****
872 /COM,      Print time/temperature output at specific locations
873 /COM,      Save profile from center to edge
874 /COM,
875 /COM,      Variable Legend: A01i000
876 /COM,      c = center of assembly
877 /COM,      h = halfway between center and tube
878 /COM,      s = inside structural stainless tube layer
879 /COM,      t = stainless tube cladding
880 /COM,      g = tube guide
881 /COM,      i = inner barrier of DC
882 /COM,      o = outer barrier of DC
883 /COM,      ## = ID number of assembly (01 is center)
884 /COM,      i = side of assembly toward center of WP
885 /COM,      o = side of assembly toward edge of WP
886 /COM,      000 = profile center down
887 /COM,      045 = profile 45 deg down
888 /COM,      090 = profile center side
889 /COM,      135 = profile 45 deg up
890 /COM,      180 = profile center up
891 /POST26,
892 NUMVAR,30,
893 /COM,
894 /COM, *****
895 /COM, * Temperature Profile from center to bottom of WP (0 deg.) *
896 /COM, *****
897 NSOL, 2,(NODE(0.0, 0.0,0.0)),TEMP,,c01i000,
898 NSOL, 3,(NODE(0.0, (0.0-QCELL),0.0)),TEMP,,h01o000,
899 NSOL, 4,(NODE(0.0, (0.0-HCELL),0.0)),TEMP,,s01o000,
900 NSOL, 5,(NODE(0.0, (0.0-SCCELL),0.0)),TEMP,,t01o000,
901 NSOL, 6,(NODE(0.0, (0.0-SCCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o000,
902 NSOL, 7,(NODE(0.0, (SCCELL-(PITCH+TWALL)),0.0)),TEMP,,t06i000,
903 NSOL, 8,(NODE(0.0, (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s06i000,
904 NSOL, 9,(NODE(0.0, (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h06i000,
905 NSOL,10,(NODE(0.0, ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c06i000,
906 NSOL,11,(NODE(0.0, ((-1.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h06o000,
907 NSOL,12,(NODE(0.0, ((-1.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s06o000,
908 NSOL,13,(NODE(0.0, (SCCELL-2.0*PITCH-TWALL),0.0)),TEMP,,t13i000,
909 NSOL,14,(NODE(0.0, (HCELL-2.0*PITCH-TWALL),0.0)),TEMP,,s13i000,
910 NSOL,15,(NODE(0.0, (QCELL-2.0*PITCH-TWALL),0.0)),TEMP,,h13i000,
911 NSOL,16,(NODE(0.0, (-2.0*PITCH-TWALL),0.0)),TEMP,,c13i000,
912 NSOL,17,(NODE(0.0, ((-2.0*PITCH)-TWALL-QCELL),0.0)),TEMP,,h13o000,
913 NSOL,18,(NODE(0.0, ((-2.0*PITCH)-TWALL-HCELL),0.0)),TEMP,,s13o000,
914 NSOL,19,(NODE(0.0, ((-2.0*PITCH)-TWALL-SCCELL),0.0)),TEMP,,t13o000,
915 NSOL,20,(NODE(0.0, (OWALL+IWALL-DCRAD),0.0)),TEMP,,i13i000,
916 NSOL,21,(NODE(0.0, (OWALL-DCRAD),0.0)),TEMP,,i13o000,
917 NSOL,22,(NODE(0.0, (0.0-DCRAD),0.0)),TEMP,,o13o000,
918 PRVAR, 2, 3, 4, 5, 6, 7,
919 PRVAR, 8, 9,10,11,12,13,
920 PRVAR,14,15,16,17,18,19,
921 PRVAR,20,21,22,
922 /COM,
923 /COM, *****
924 /COM, * Temperature Profile from center to lower right (45 deg.) *
925 /COM, *****
926 NSOL, 2,(NODE( 0.0, 0.0,0.0)),TEMP,,c01i045,
927 NSOL, 3,(NODE( QCELL, (0.0-QCELL),0.0)),TEMP,,h01o045,
928 NSOL, 4,(NODE( HCELL, (0.0-HCELL),0.0)),TEMP,,s01o045,

```

```

929 NSOL, 5, (NODE(          SCELL,          (0.0-SCELL),0.0)),TEMP,,t01o045,
930 NSOL, 6, (NODE( (SCELL+0.5*TWALL), (0.0-SCELL-(0.5*TWALL)),0.0)),TEMP,,ts1o045,
931 NSOL, 7, (NODE((PITCH+TWALL-SCELL), (SCELL-(PITCH+TWALL)),0.0)),TEMP,,t08i045,
932 NSOL, 8, (NODE((PITCH+TWALL-HCELL), (HCELL-(PITCH+TWALL)),0.0)),TEMP,,s08i045,
933 NSOL, 9, (NODE((PITCH+TWALL-QCELL), (QCELL-(PITCH+TWALL)),0.0)),TEMP,,h08i045,
934 NSOL,10, (NODE( (1.0*PITCH+TWALL), ((-1.0*PITCH)-TWALL),0.0)),TEMP,,c08i045,
935 NSOL,11, (NODE((PITCH+TWALL+QCELL), (0.0-PITCH-TWALL-QCELL),0.0)),TEMP,,h08o045,
936 NSOL,12, (NODE((PITCH+TWALL+HCELL), (0.0-PITCH-TWALL-HCELL),0.0)),TEMP,,s08o045,
937 NSOL,13, (NODE(          GX24,          (0.0-GX24),0.0)),TEMP,,g08i045,
938 NSOL,14, (NODE(          GX25,          (0.0-GX25),0.0)),TEMP,,g08o045,
939 NSOL,15, (NODE(          DI45,          (-1.0*DI45),0.0)),TEMP,,i08i045,
940 NSOL,16, (NODE(          DM45,          (-1.0*DM45),0.0)),TEMP,,i08o045,
941 NSOL,17, (NODE(          DO45,          (-1.0*DO45),0.0)),TEMP,,o08o045,
942 /COM,          Add centers of assemblies 11 and 12
943 NSOL,18, (NODE( (2.0*PITCH+TWALL), (-1.0*PITCH-TWALL),0.0)),TEMP,,c11i045,
944 NSOL,19, (NODE(          (PITCH+TWALL), (-2.0*PITCH-TWALL),0.0)),TEMP,,c12i045,
945 PRVAR, 2, 3, 4, 5, 6, 7,
946 PRVAR, 8, 9,10,11,12,13,
947 PRVAR,14,15,16,17,18,19,
948 /COM,
949 /COM, *****
950 /COM, * Temperature Profile from center to side of WP (90 deg.) *
951 /COM, *****
952 NSOL, 2, (NODE(          0.0,0.0,0.0)),TEMP,,c01i090,
953 NSOL, 3, (NODE(          QCELL,0.0,0.0)),TEMP,,h01o090,
954 NSOL, 4, (NODE(          HCELL,0.0,0.0)),TEMP,,s01o090,
955 NSOL, 5, (NODE(          SCELL,0.0,0.0)),TEMP,,t01o090,
956 NSOL, 6, (NODE( (SCELL+0.5*TWALL),0.0,0.0)),TEMP,,ts1o090,
957 NSOL, 7, (NODE( (PITCH+TWALL-SCELL),0.0,0.0)),TEMP,,t02i090,
958 NSOL, 8, (NODE( (PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s02i090,
959 NSOL, 9, (NODE( (PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h02i090,
960 NSOL,10, (NODE( (PITCH+TWALL),0.0,0.0)),TEMP,,c02i090,
961 NSOL,11, (NODE( (PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h02o090,
962 NSOL,12, (NODE( (PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s02o090,
963 NSOL,13, (NODE( (PITCH+TWALL+SCELL),0.0,0.0)),TEMP,,t02i090,
964 NSOL,14, (NODE((2.0*PITCH+TWALL-HCELL),0.0,0.0)),TEMP,,s04i090,
965 NSOL,15, (NODE((2.0*PITCH+TWALL-QCELL),0.0,0.0)),TEMP,,h04i090,
966 NSOL,16, (NODE( (2.0*PITCH+TWALL),0.0,0.0)),TEMP,,c04i090,
967 NSOL,17, (NODE((2.0*PITCH+TWALL+QCELL),0.0,0.0)),TEMP,,h04o090,
968 NSOL,18, (NODE((2.0*PITCH+TWALL+HCELL),0.0,0.0)),TEMP,,s04o090,
969 NSOL,19, (NODE((2.0*PITCH+TWALL+SCELL),0.0,0.0)),TEMP,,t04o090,
970 NSOL,20, (NODE( (DCRAD-OWALL-IWALL),0.0,0.0)),TEMP,,i04i090,
971 NSOL,21, (NODE( (DCRAD-OWALL),0.0,0.0)),TEMP,,i04o090,
972 NSOL,22, (NODE(          DCRAD,0.0,0.0)),TEMP,,o04o090,
973 PRVAR, 2, 3, 4, 5, 6, 7,
974 PRVAR, 8, 9,10,11,12,13,
975 PRVAR,14,15,16,17,18,19,
976 PRVAR,20,21,22,
977 /COM,
978 /COM, *****
979 /COM, * Temperature Profile from center to upper right (135 deg.) *
980 /COM, *****
981 NSOL, 2, (NODE(          0.0,          0.0,0.0)),TEMP,,c01i135,
982 NSOL, 3, (NODE(          QCELL,          QCELL,0.0)),TEMP,,h01o135,
983 NSOL, 4, (NODE(          HCELL,          HCELL,0.0)),TEMP,,s01o135,
984 NSOL, 5, (NODE(          SCELL,          SCELL,0.0)),TEMP,,t01o135,
985 NSOL, 6, (NODE( (SCELL+0.5*TWALL), (SCELL+0.5*TWALL),0.0)),TEMP,,ts1o135,
986 NSOL, 7, (NODE((PITCH+TWALL-SCELL), (PITCH+TWALL-SCELL),0.0)),TEMP,,t07i135,
987 NSOL, 8, (NODE((PITCH+TWALL-HCELL), (PITCH+TWALL-HCELL),0.0)),TEMP,,s07i135,
988 NSOL, 9, (NODE((PITCH+TWALL-QCELL), (PITCH+TWALL-QCELL),0.0)),TEMP,,h07i135,
989 NSOL,10, (NODE( (PITCH+TWALL), (PITCH+TWALL),0.0)),TEMP,,c07i135,
990 NSOL,11, (NODE((PITCH+TWALL+QCELL), (PITCH+TWALL+QCELL),0.0)),TEMP,,h07o135,
991 NSOL,12, (NODE((PITCH+TWALL+HCELL), (PITCH+TWALL+HCELL),0.0)),TEMP,,s07o135,
992 NSOL,13, (NODE(          GX24,          GX24,0.0)),TEMP,,g07i135,
993 NSOL,14, (NODE(          GX25,          GX25,0.0)),TEMP,,g07o135,
994 NSOL,15, (NODE(          DI45,          DI45,0.0)),TEMP,,i07i135,
995 NSOL,16, (NODE(          DM45,          DM45,0.0)),TEMP,,i07o135,
996 NSOL,17, (NODE(          DO45,          DO45,0.0)),TEMP,,o07o135,
997 /COM,          Add centers of assemblies 9 and 10
998 NSOL,18, (NODE( (2.0*PITCH+TWALL), (PITCH+TWALL),0.0)),TEMP,,c09i135,

```

```

999 NSOL,19,(NODE(      (PITCH+TWALL), (2.0*PITCH+TWALL),0.0)),TEMP,,c10i135,
1000 PRVAR, 2, 3, 4, 5, 6, 7,
1001 PRVAR, 8, 9,10,11,12,13,
1002 PRVAR,14,15,16,17,18,19,
1003 /COM,
1004 /COM, *****
1005 /COM, * Temperature Profile from center to top of WP (180 deg.) *
1006 /COM, *****
1007 NSOL, 2,(NODE(0.0,      0.0,0.0)),TEMP,,c01i180,
1008 NSOL, 3,(NODE(0.0,      QCELL,0.0)),TEMP,,h01o180,
1009 NSOL, 4,(NODE(0.0,      HCELL,0.0)),TEMP,,s01o180,
1010 NSOL, 5,(NODE(0.0,      SCELL,0.0)),TEMP,,t01o180,
1011 NSOL, 6,(NODE(0.0,      (SCELL+0.5*TWALL),0.0)),TEMP,,ts5i180,
1012 NSOL, 7,(NODE(0.0,      (PITCH+TWALL-SCELL),0.0)),TEMP,,t05i180,
1013 NSOL, 8,(NODE(0.0,      (PITCH+TWALL-HCELL),0.0)),TEMP,,s05i180,
1014 NSOL, 9,(NODE(0.0,      (PITCH+TWALL-QCELL),0.0)),TEMP,,h05i180,
1015 NSOL,10,(NODE(0.0,      (PITCH+TWALL),0.0)),TEMP,,c05i180,
1016 NSOL,11,(NODE(0.0,      (PITCH+TWALL+QCELL),0.0)),TEMP,,h05o180,
1017 NSOL,12,(NODE(0.0,      (PITCH+TWALL+HCELL),0.0)),TEMP,,s05o180,
1018 NSOL,13,(NODE(0.0,      (PITCH+TWALL+SCELL),0.0)),TEMP,,t05i180,
1019 NSOL,14,(NODE(0.0,(2.0*PITCH+TWALL-HCELL),0.0)),TEMP,,s03i180,
1020 NSOL,15,(NODE(0.0,(2.0*PITCH+TWALL-QCELL),0.0)),TEMP,,h03i180,
1021 NSOL,16,(NODE(0.0,      (2.0*PITCH+TWALL),0.0)),TEMP,,c03i180,
1022 NSOL,17,(NODE(0.0,(2.0*PITCH+TWALL+QCELL),0.0)),TEMP,,h03o180,
1023 NSOL,18,(NODE(0.0,(2.0*PITCH+TWALL+HCELL),0.0)),TEMP,,s03o180,
1024 NSOL,19,(NODE(0.0,(2.0*PITCH+TWALL+SCELL),0.0)),TEMP,,t03o180,
1025 NSOL,20,(NODE(0.0,      (DCRAD-OWALL-IWALL),0.0)),TEMP,,i03i180,
1026 NSOL,21,(NODE(0.0,      (DCRAD-OWALL),0.0)),TEMP,,i03o180,
1027 NSOL,22,(NODE(0.0,      DCRAD,0.0)),TEMP,,o03o180,
1028 PRVAR, 2, 3, 4, 5, 6, 7,
1029 PRVAR, 8, 9,10,11,12,13,
1030 PRVAR,14,15,16,17,18,19,
1031 PRVAR,20,21,22,
1032 FINISH
1033 /COM, *****
1034 /COM, End of batch input file
1035 /COM, *****
1036 /EXIT,
1037 /EOF

```

RUN SETUP PROCEDURE FROM FILE= /ansys50a/docu/start.ans

```

/INPUT FILE= /ansys50a/docu/start.ans LINE=      0
*****
ANSYS STARTUP FILE start.ans
*****

```

```

ABBREVIATION= K1      /pnum,kp ,1,
ABBREVIATION= K0      /pnum,kp ,0,
ABBREVIATION= L1      /pnum,line,1,
ABBREVIATION= L0      /pnum,line,0,
ABBREVIATION= A1      /pnum,area,1,
ABBREVIATION= A0      /pnum,area,0,
ABBREVIATION= V1      /pnum,volu,1,
ABBREVIATION= V0      /pnum,volu,0,
ABBREVIATION= N1      /pnum,node,1,
ABBREVIATION= N0      /pnum,node,0,
ABBREVIATION= E1      /pnum,elem,1,
ABBREVIATION= E0      /pnum,elem,0,

```

```

ABBREVIATION= M1      /pnum,mat ,1,
ABBREVIATION= M0      /pnum,mat ,0,
ABBREVIATION= R1      /pnum,real,1,
ABBREVIATION= R0      /pnum,real,0,
ABBREVIATION= T1      /pnum,type,1,
ABBREVIATION= T0      /pnum,type,0,
ABBREVIATION= C1      /number,1,
ABBREVIATION= C0      /number,0,
ABBREVIATION= INP     /input,,inp,
ABBREVIATION= X3D     /show,3d,
ABBREVIATION= X11     /show,x11,
ABBREVIATION= VEC     /show,,,1,
ABBREVIATION= RAS     /show,,,0,
ABBREVIATION= ON      /menu,on,
ABBREVIATION= OFF     /menu,off,
ABBREVIATION= NVP     /config,nvpag,512,
ABBREVIATION= QUIT    /exit,nosav,
XYZ TRIAD DISPLAY SET TO OFF

```

VIEW CONE ANGLE FOR WINDOW 1 25.00

```

*****
END start.ans
*****

```

To start ANSYS menu:

```

type:  x3d  for console
       x11  for X-term

```

```

type:  on

```

```

*****
*****
ANSYS REVISION  5.0A                      6/10/1995
2-D Model of 125 ton burnup credit UCF-DC  Thomas L. Lotz
*****
*
* File name: ucf21x.inp
*      21 PWR UCF with High T.L. Disposal Container
*      Helium Fill Gas
*
* Material Property file: props01.dat
*
* SNF Conductivity file: pwr15e.parm
*      15x15 Mark-B4 PWR SNF Assembly
*
* SNF Heat Loads file:   snf1048.dat
*      SNF Type: 10 years old, 48086 MWd/MTU
*
* Surface Temp. file:    c21x5a.parm
*      100 MTU/acre (24.7 kgU/m^2) AML (High Thermal Loading)
*      5.0 m Diameter Drift with Concrete Invert
*      Drift spacing = 22.5 m

```

```
*      WP c/c spacing = 16.164 m      *
*                                     *
*****
Increase the number of database pages from 16 (256) to 32 Mb
```

```
NUMBER OF DATA BASE PAGES IN MEMORY(NVPAGE)= 512
Work space must also be increased (-m 64)
*****
```

```
TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF
```

```
SI UNITS SPECIFIED
LENGTH      = METERS(M)
MASS        = KILOGRAMS(KG)
TIME        = SECONDS(SEC)
TEMPERATURE = CENTIGRADE
CURRENT     = AMPS
*****
Read in average effective conductivities from SNF model
```

```
*** NOTE ***                      CP=      .650   TIME= 10:01:47
Restore ANSYS parameters from file= pwr15e.parm.
```

```
/INPUT FILE= pwr15e.parm LINE=      0
```

```
PRINTOUT RESUMED BY /GOP
Read in surface temps. from repository model
```

```
*** NOTE ***                      CP=      .830   TIME= 10:01:47
Restore ANSYS parameters from file= c21x5a.parm.
```

```
/INPUT FILE= c21x5a.parm LINE=      0
```

```
PRINTOUT RESUMED BY /GOP
*****
```

Define Required Constants:

```
PARAMETER PI      =      3.141593
```

```
Define UCF/waste package parameters
(UCF dimensions converted from inches/cm/mm to meters were requi
MIRAD = inner radius of UCF He Backfill shell (m) (NOT
MWALL = UCF He Backfill shell thickness (m) (NOT
DCRAD = disposal container outer radius (m)
OWALL = outer barrier thickness (m)
IWALL = inner barrier thickness (m)
DCIRD = disposal container inner radius (m)

GCORN = corner guide width (m)
GWALL = basket guide thickness (m)
GLEN1 = side guide 1/3 width (m) (NOT USED)
GLENT = side guide total width (m) (NOT USED)

HCELL = 1/2 of basket cell opening (m)
SWALL = stainless tube thickness (m)
TWALL = Aluminum thermal shunt thickness (m)
AWALL = Al/boron tube thickness (m) (NOT USED)

ACTVL = active fuel length
PEAKF = assembly heat axial peaking factor
```

```
MIRAD=1363.6/1000.0/2.0
MWALL=1.0000*2.54/100.0
```

```
PARAMETER DCRAD    =      .8145000
```

```
PARAMETER OWALL    =      .1000000
```

PARAMETER IWALL = .2000000E-01

PARAMETER DCIRD = .6945000

PARAMETER GCORN = .2335000

PARAMETER GWALL = .9500000E-02

GLEN1=9.6170*2.54/100.0

GLENT=28.866*2.54/100.0

PARAMETER HCELL = .1117500

PARAMETER SWALL = .5000000E-02

PARAMETER TWALL = .1000000E-01

AWALL=0.2500*2.54/100.0

PARAMETER ACTVL = 3.601720

PARAMETER PEAKF = 1.250000

Define calculated parameters

ASSY = assembly heat production (W) f(yrs)

FUEL = volumetric heat production (W/m3) f(yrs)

FVOLU = assy_volume=cell_width^2*active_length

PITCH = basket cell outer width (m)

QCELL = 1/4 of basket cell opening (m)

SCELL = 1/2 of basket cell opening+SS wall(m)

ACELL = 1/2 of basket cell opening+SS+AL (m) (NOT USED)

GX## = x coord. of basket guide or thermal shunt/shell c

GX## = y coord. of basket guide or thermal shunt/shell c

MI45 = x coord. MIRAD at 45 deg. (NOT USED)

MO45 = x coord. MIRAD+MWALL at 45 deg. (NOT USED)

DI45 = x coord. DCRAD-OWALL-IWALL at 45 deg.

DM45 = x coord. DCRAD-OWALL at 45 deg.

DO45 = x coord. DCRAD at 45 deg.

ARRAY PARAMETER ASSY DELETED.

SET PARAMETER DIMENSIONS ON ASSY TYPE=TABL DIMENSIONS= 101 1 1

SET PARAMETER DIMENSIONS ON FUEL TYPE=TABL DIMENSIONS= 101 1 1

PARAMETER FVOLU = .1799140

PARAMETER PITCH = .2335000

PARAMETER QCELL = .5587500E-01

PARAMETER SCELL = .1167500

ACELL=HCELL+SWALL+AWALL

PARAMETER GX22 = .1167500

PARAMETER GY22 = .6846165

PARAMETER GX23 = .1267500

PARAMETER GY23 = .6828358

PARAMETER GX24 = .3602500
 PARAMETER GY24 = .5937594
 PARAMETER GX25 = .3697500
 PARAMETER GY25 = .5878905

MI45=MIRAD/SQRT(2.0)
 MO45=(MIRAD+MWALL)/SQRT(2.0)

PARAMETER DI45 = .4910857
 PARAMETER DM45 = .5052278
 PARAMETER DO45 = .5759385

Define Transient Time parameters based upon the following:
 Note: 1 year = 3.15576e7 seconds
 TM_START = start time (sec)
 TMI* = time increment for solution (sec)
 TME* = start and stop for time do-loops (sec)
 TMTMAX = time of maximum cladding temperature

PARAMETER TM_START = 31.55760
 PARAMETER TM10 = 3155760.
 PARAMETER TM11 = .3155760E+08
 PARAMETER TM110 = .3155760E+09
 PARAMETER TM1100 = .3155760E+10
 PARAMETER TM11000 = .3155760E+11
 PARAMETER TME0 = .2840187E+08
 PARAMETER TME1 = .3155763E+08
 PARAMETER TME9 = .2840184E+09
 PARAMETER TME10 = .3155760E+09
 PARAMETER TME50 = .1577880E+10
 PARAMETER TME90 = .2840184E+10
 PARAMETER TME100 = .3155760E+10
 PARAMETER TME1000 = .3155760E+11

Define different element types

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:01:48 JUN 12, 1995 CP= 1.600
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE 1 IS PLANE55 2-D THERMAL SOLID
 KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP

TWO-DIMENSIONAL MODEL

ELEMENT TYPE 2 IS SOLID70 3-D THERMAL SOLID
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 7 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 16 IS SHELL57 THERMAL SHELL
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 17 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 18 IS MATRIX50 SUBSTRUCTURE MATRIX
KEYOPT(1-12)= 1 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 19 IS LINK31 RADIATION LINK
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

ELEMENT TYPE 27 IS LINK32 2-D CONDUCTING BAR
KEYOPT(1-12)= 0 0 0 0 0 0 0 0 0 0 0 0

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

File props01.dat describes material properties
and thier reference numbers

READ IN MATERIAL PROPERTY LIBRARY FROM FILE= props01.dat

/INPUT FILE= props01.dat LINE= 0

** ANSYS 5.0 MPC MATERIAL PROPERTY TABLES **

** Filename: props01.dat **
** Compiled by R. Bahney III on 1-30-95 **

NUMBER	MATERIAL	DESCRIPTION
1	Stainless Steel 316	Basket Structural Support
2	Incaloy 825	Inner Container (resistant)
3	A516 Mild Steel	Outer Container (allowance)
4	UO2 Pellet	SNF Uranium Oxide Pellet
5	Zircaloy 4	SNF Cladding
6	Oxidation Layer	Stably Oxidized Zircaloy Surface
7	Helium	Canister Fill Gas
8	Air	Alternate Fill Gas
9	Nitrogen	Alternate Fill Gas
10	Argon	Alternate Fill Gas
11	Aluminum 6063	Thermal Conductor
12	Copper	Alternate Thermal Conductor

13 Aluminum-Boron Aluminum Boron Criticality Matl

```
*****
**      Density:      DENS      (kg/m^3)      **
**      Emissivity    EMIS      **
**      Conductivity: KXX      (W/m/K)      **
**      Specific Heat: C      (J/kg/K)      **
*****
```

Define densities for all materials except gases

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
SLOC= 1 .0000000E+00

PROPERTY TABLE DENS MAT= 1 NUM. POINTS= 1
SLOC= 1 8000.000

PROPERTY TABLE DENS MAT= 2 NUM. POINTS= 1
SLOC= 1 8137.900

PROPERTY TABLE DENS MAT= 3 NUM. POINTS= 1
SLOC= 1 8131.000

PROPERTY TABLE DENS MAT= 4 NUM. POINTS= 1
SLOC= 1 10970.00

PROPERTY TABLE DENS MAT= 5 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 6 NUM. POINTS= 1
SLOC= 1 6500.000

PROPERTY TABLE DENS MAT= 11 NUM. POINTS= 1
SLOC= 1 2690.000

PROPERTY TABLE DENS MAT= 12 NUM. POINTS= 1
SLOC= 1 8933.000

PROPERTY TABLE DENS MAT= 13 NUM. POINTS= 1
SLOC= 1 2693.000

Define emissivities for all materials except gases

PROPERTY TABLE EMIS MAT= 1 NUM. POINTS= 1
SLOC= 1 .6000000

PROPERTY TABLE EMIS MAT= 2 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 3 NUM. POINTS= 1
SLOC= 1 .8000000

PROPERTY TABLE EMIS MAT= 4 NUM. POINTS= 1
SLOC= 1 .7900000

PROPERTY TABLE EMIS MAT= 5 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 6 NUM. POINTS= 1
SLOC= 1 .8060000

PROPERTY TABLE EMIS MAT= 11 NUM. POINTS= 1
SLOC= 1 .7000000E-01

PROPERTY TABLE EMIS MAT= 12 NUM. POINTS= 1
SLOC= 1 .5000000

PROPERTY TABLE EMIS MAT= 13 NUM. POINTS= 1

SLOC= 1 .7000000E-01

Define specific heat for matl. 4, 5, 6, 7, 11, 14, 15

PROPERTY TABLE C MAT= 4 NUM. POINTS= 1
SLOC= 1 247.0000

PROPERTY TABLE C MAT= 5 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 6 NUM. POINTS= 1
SLOC= 1 330.0000

PROPERTY TABLE C MAT= 7 NUM. POINTS= 1
SLOC= 1 5193.000

PROPERTY TABLE C MAT= 11 NUM. POINTS= 1
SLOC= 1 900.0000

Define K and C for materials 1, 3

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
SLOC= 1 21.11000 37.78000 65.56000
93.33000 121.1100 148.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
SLOC= 7 176.6700 204.4400 232.2200
260.0000 287.7800 315.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
SLOC= 13 343.3300 371.1100 398.8900
426.6700 454.4400 482.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
SLOC= 19 510.0000 537.7800 565.5600
593.3300 621.1100 648.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
SLOC= 25 676.6700 704.4400 732.2200
760.0000 787.7800 815.5600

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 6
SLOC= 1 13.33000 13.67000 14.19000 14.54000
15.06000 15.58000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 12
SLOC= 7 15.92000 16.44000 16.96000 17.31000
17.83000 18.17000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 18
SLOC= 13 18.52000 19.04000 19.38000 19.90000
20.25000 20.77000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 24
SLOC= 19 21.11000 21.46000 21.98000 22.33000
22.67000 23.02000

PROPERTY TABLE KXX MAT= 1 NUM. POINTS= 30
SLOC= 25 23.54000 23.88000 24.23000 24.58000
24.92000 25.27000

PROPERTY TABLE C MAT= 1 NUM. POINTS= 6
SLOC= 1 481.6800 486.9200 498.0900 499.3800
509.9800 520.2900

PROPERTY TABLE C MAT= 1 NUM. POINTS= 12
SLOC= 7 521.0700 527.3800 536.9200 537.3400
543.0200 543.3100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 18
 SLOC= 13 546.9100 552.1400 552.2600 557.2200
 557.2500 565.1100

PROPERTY TABLE C MAT= 1 NUM. POINTS= 24
 SLOC= 19 565.0100 564.9100 572.3500 572.1400
 574.9200 574.6800

PROPERTY TABLE C MAT= 1 NUM. POINTS= 30
 SLOC= 25 581.6400 581.3000 583.8600 586.3600
 585.9600 588.3900

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 6
 SLOC= 1 40.84000 41.36000 41.88000 42.23000
 42.23000 42.23000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 12
 SLOC= 7 42.06000 41.88000 41.36000 41.02000
 40.50000 39.98000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 18
 SLOC= 13 39.29000 38.77000 38.08000 37.56000
 36.69000 36.17000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 24
 SLOC= 19 35.48000 34.61000 33.92000 33.23000
 32.36000 31.50000

PROPERTY TABLE KXX MAT= 3 NUM. POINTS= 30
 SLOC= 25 30.29000 28.90000 27.35000 26.48000
 26.13000 26.13000

PROPERTY TABLE C MAT= 3 NUM. POINTS= 6
 SLOC= 1 428.7200 444.9500 460.9400 476.8700
 486.0800 495.6600

PROPERTY TABLE C MAT= 3 NUM. POINTS= 12
 SLOC= 7 506.0900 517.0700 525.6400 536.9900
 543.6300 550.6200

PROPERTY TABLE C MAT= 3 NUM. POINTS= 18
 SLOC= 13 562.2100 577.3200 589.1000 600.5700
 611.3500 629.0900

PROPERTY TABLE C MAT= 3 NUM. POINTS= 24
 SLOC= 19 645.3200 665.1200 682.0700 694.5200
 724.0700 761.9500

PROPERTY TABLE C MAT= 3 NUM. POINTS= 30
 SLOC= 25 806.3100 888.6000 1095.040 1638.780
 808.6800 736.9000

Define K for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800 565.5600

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***

SLOC= 19	593.3300	621.1100	648.8900
	676.6700	704.4400	732.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 27 ***
 SLOC= 25 760.0000 787.7800 815.5600

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 6	
SLOC= 1	12.29000	12.63000	13.15000
	14.02000	14.54000	13.67000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 12	
SLOC= 7	14.88000	15.40000	15.75000
	16.61000	16.96000	16.10000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 18	
SLOC= 13	17.31000	17.65000	18.00000
	18.86000	19.21000	18.52000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 24	
SLOC= 19	19.73000	20.08000	20.42000
	21.46000	21.98000	20.94000

PROPERTY TABLE KXX	MAT= 2	NUM. POINTS= 27	
SLOC= 25	22.33000	23.02000	23.54000

Define C for material 2

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 93.33000 121.1100 148.8900
 176.6700 204.4400 232.2200

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 260.0000 287.7800 315.5600
 343.3300 371.1100 398.8900

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 17 ***
 SLOC= 13 426.6700 454.4400 482.2200
 510.0000 537.7800

PROPERTY TABLE C	MAT= 2	NUM. POINTS= 6	
SLOC= 1	460.6900	477.4200	501.0200
	498.1200	520.4500	504.6500

PROPERTY TABLE C	MAT= 2	NUM. POINTS= 12	
SLOC= 7	536.8800	559.8500	576.8300
	581.6800	598.2000	576.2100

PROPERTY TABLE C	MAT= 2	NUM. POINTS= 17	
SLOC= 13	619.5800	636.7600	654.2000
	696.2900		678.2500

Define K for materials 4, 5, 6

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 .0000000E+00 10.00000 20.00000
 30.00000 40.00000 50.00000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 60.00000 70.00000 80.00000
 90.00000 100.0000 110.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 18 ***
 SLOC= 13 120.0000 130.0000 140.0000
 150.0000 160.0000 170.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 24 ***
 SLOC= 19 180.0000 190.0000 200.0000
 210.0000 220.0000 230.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 30 ***
 SLOC= 25 240.0000 250.0000 260.0000
 270.0000 280.0000 290.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 36 ***
 SLOC= 31 300.0000 310.0000 320.0000
 330.0000 340.0000 350.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 42 ***
 SLOC= 37 360.0000 370.0000 380.0000
 390.0000 400.0000 410.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 48 ***
 SLOC= 43 420.0000 430.0000 440.0000
 450.0000 460.0000 470.0000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 50 ***
 SLOC= 48 480.0000 490.0000 500.0000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 6
 SLOC= 1 8.720000 8.540000 8.360000 8.190000
 8.030000 7.870000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 12
 SLOC= 7 7.720000 7.580000 7.440000 7.310000
 7.180000 7.050000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 18
 SLOC= 13 6.930000 6.820000 6.700000 6.600000
 6.490000 6.390000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 24
 SLOC= 19 6.290000 6.190000 6.100000 6.010000
 5.920000 5.840000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 30
 SLOC= 25 5.760000 5.680000 5.600000 5.520000
 5.450000 5.380000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 36
 SLOC= 31 5.310000 5.240000 5.180000 5.110000
 5.050000 4.990000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 42
 SLOC= 37 4.930000 4.870000 4.810000 4.760000
 4.700000 4.650000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 48
 SLOC= 43 4.600000 4.550000 4.500000 4.450000
 4.400000 4.350000

PROPERTY TABLE KXX MAT= 4 NUM. POINTS= 50
 SLOC= 48 4.310000 4.270000 4.220000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 6
 SLOC= 1 12.29000 12.44000 12.58000 12.72000
 12.87000 13.01000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 12
 SLOC= 7 13.15000 13.28000 13.42000 13.55000
 13.69000 13.82000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 18
 SLOC= 13 13.95000 14.08000 14.21000 14.34000
 14.46000 14.59000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 24
 SLOC= 19 14.72000 14.84000 14.96000 15.09000
 15.21000 15.33000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 30
 SLOC= 25 15.45000 15.57000 15.69000 15.81000
 15.93000 16.05000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 36
 SLOC= 31 16.17000 16.29000 16.40000 16.52000
 16.64000 16.76000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 42
 SLOC= 37 16.88000 16.99000 17.11000 17.23000
 17.35000 17.46000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 48
 SLOC= 43 17.58000 17.70000 17.82000 17.94000
 18.06000 18.18000

PROPERTY TABLE KXX MAT= 5 NUM. POINTS= 50
 SLOC= 48 18.30000 18.42000 18.54000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 6
 SLOC= 1 1.940000 1.940000 1.940000 1.940000
 1.940000 1.940000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 12
 SLOC= 7 1.940000 1.950000 1.950000 1.950000
 1.950000 1.950000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 18
 SLOC= 13 1.950000 1.950000 1.960000 1.960000
 1.960000 1.960000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 24
 SLOC= 19 1.960000 1.970000 1.970000 1.970000
 1.970000 1.980000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 30
 SLOC= 25 1.980000 1.980000 1.980000 1.990000
 1.990000 1.990000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 36
 SLOC= 31 2.000000 2.000000 2.000000 2.010000
 2.010000 2.010000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 42
 SLOC= 37 2.020000 2.020000 2.020000 2.030000
 2.030000 2.030000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 48
 SLOC= 43 2.040000 2.040000 2.040000 2.050000
 2.050000 2.060000

PROPERTY TABLE KXX MAT= 6 NUM. POINTS= 50
 SLOC= 48 2.060000 2.060000 2.070000

Define p, K, C for materials 7, 8, 9, ~10

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -13.15000 6.850000 26.85000
 76.85000 126.8500 176.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 12 ***
 SLOC= 7 226.8500 276.8500 326.8500
 376.8500 426.8500 476.8500

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 15 ***
 SLOC= 13 526.8500 626.8500 726.8500

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1875000 .1750000 .1625000 .1422000
 .1219000 .1097000

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 12
 SLOC= 7 .9750000E-01 .9060000E-01 .8360000E-01 .7670000E-01
 .6970000E-01 .6620000E-01

PROPERTY TABLE DENS MAT= 7 NUM. POINTS= 15
 SLOC= 13 .6270000E-01 .5580000E-01 .4880000E-01

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 6
 SLOC= 1 .1370000 .1450000 .1520000 .1700000
 .1870000 .2040000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 12
 SLOC= 7 .2200000 .2360000 .2520000 .2640000
 .2780000 .2910000

PROPERTY TABLE KXX MAT= 7 NUM. POINTS= 15
 SLOC= 13 .3040000 .3300000 .3540000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 6
 SLOC= 1 1.348000 1.254700 1.161400 .9950000
 .8711000 .7740000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 12
 SLOC= 7 .6964000 .6329000 .5804000 .5356000
 .4975000 .4643000

PROPERTY TABLE DENS MAT= 8 NUM. POINTS= 15
 SLOC= 13 .4354000 .3868000 .3482000

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2500000E-01 .2600000E-01 .3000000E-01
 .3400000E-01 .3700000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 12
 SLOC= 7 .4100000E-01 .4400000E-01 .4700000E-01 .5000000E-01
 .5200000E-01 .5500000E-01

PROPERTY TABLE KXX MAT= 8 NUM. POINTS= 15
 SLOC= 13 .5700000E-01 .6200000E-01 .6700000E-01

PROPERTY TABLE C MAT= 8 NUM. POINTS= 6
 SLOC= 1 1006.200 1006.600 1007.000 1009.000
 1014.000 1021.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 12
 SLOC= 7 1030.000 1040.000 1051.000 1063.000
 1075.000 1087.000

PROPERTY TABLE C MAT= 8 NUM. POINTS= 15
 SLOC= 13 1099.000 1121.000 1141.000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 6
 SLOC= 1 1.303700 1.213500 1.123300 .9625000
 .8425000 .7485000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 12
 SLOC= 7 .6739000 .6124000 .5615000 .5214000
 .4812000 .4512000

PROPERTY TABLE DENS MAT= 9 NUM. POINTS= 15
 SLOC= 13 .4211000 .3743000 .3368000

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 6
 SLOC= 1 .2300000E-01 .2400000E-01 .2600000E-01 .2900000E-01
 .3300000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 12
 SLOC= 7 .3900000E-01 .4200000E-01 .4500000E-01 .4700000E-01
 .5000000E-01 .5200000E-01

PROPERTY TABLE KXX MAT= 9 NUM. POINTS= 15
 SLOC= 13 .5500000E-01 .6000000E-01 .6500000E-01

PROPERTY TABLE C MAT= 9 NUM. POINTS= 6
 SLOC= 1 1041.800 1041.400 1041.000 1042.000
 1045.000 1050.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 12
 SLOC= 7 1056.000 1065.000 1075.000 1086.500
 1098.000 1159.000

PROPERTY TABLE C MAT= 9 NUM. POINTS= 15
 SLOC= 13 1220.000 1146.000 1167.000

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 6
 SLOC= 1 .1700000E-01 .1700000E-01 .1800000E-01 .2100000E-01
 .2300000E-01 .2500000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 12
 SLOC= 7 .2700000E-01 .2800000E-01 .3000000E-01 .3200000E-01
 .3400000E-01 .3600000E-01

PROPERTY TABLE KXX MAT= 10 NUM. POINTS= 15
 SLOC= 13 .3700000E-01 .4100000E-01 .4400000E-01

Define K and C for material 12

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 6 ***
 SLOC= 1 -73.15000 26.85000 126.8500
 326.8500 526.8500 726.8500

PROPERTY TABLE KXX MAT= 12 NUM. POINTS= 6
 SLOC= 1 413.0000 401.0000 393.0000 379.0000
 366.0000 352.0000

PROPERTY TABLE C MAT= 12 NUM. POINTS= 6
 SLOC= 1 356.0000 385.0000 397.0000 417.0000
 433.0000 451.0000

Define K and C for material 13

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 5 ***
 SLOC= 1 23.00000 50.00000 100.0000
 150.0000 200.0000

PROPERTY TABLE KXX MAT= 13 NUM. POINTS= 5
 SLOC= 1 182.5600 190.1700 199.2200 202.9100
 203.7200

PROPERTY TABLE C MAT= 13 NUM. POINTS= 5
 SLOC= 1 868.0000 903.0000 946.0000 976.0000
 998.0000

 ** End of Material Property List **

 Read in single assembly heat loads

Calculate the volumetric heat generation
(Assembly time is in years, FUEL is in seconds)

/INPUT FILE= snf1048.dat LINE= 0

```
*****
** History of SNF Assembly Heat Generation Rates **
** Output of PHIA, SCSI: 800000000-01717-1200-3000X Rev.00B **
**
** Executable File Name: PHIA00B.EXE **
** Output File Name: snf1048.dat **
** Execution Date: 02/24/95 **
** Start Age (years): 10.0 **
** Decay Period (years): 10000 **
** Enrichment (percent): 4.20 **
** Burnup (MWd/MTU): 48086 **
** Assembly Type: PWR **
** SNF U Mass (MTU/assy): 0.464 **
**
** ASSY(#,1) is the SNF assembly heat in Watts. **
** ASSY(#,0) is the time post emplacement in years. **
*****
```

PARAMETER ASSY(1,1) =	850.0100 848.4600	849.6200 848.0800	849.2300	848.8500
PARAMETER ASSY(7,1) =	847.6900 846.1600	847.3100 844.2600	846.9300	846.5400
PARAMETER ASSY(13,1) =	842.3700 834.9500	840.5000 833.1300	838.6300	836.7900
PARAMETER ASSY(19,1) =	831.3200 824.2000	829.5200 822.4500	827.7400	825.9600
PARAMETER ASSY(25,1) =	820.7200 813.8800	818.9900 799.0100	817.2800	815.5700
PARAMETER ASSY(31,1) =	785.0300 738.5700	772.2000 729.5500	760.0600	749.0400
PARAMETER ASSY(37,1) =	720.9500 683.8600	710.2700 676.0300	700.0700	691.8000
PARAMETER ASSY(43,1) =	668.5000 642.5500	661.1300 580.1800	654.0400	648.1900
PARAMETER ASSY(49,1) =	529.8600 380.7000	484.5200 352.1900	445.3600	410.5100
PARAMETER ASSY(55,1) =	327.7800 252.6500	305.8800 238.3100	286.2200	268.5700
PARAMETER ASSY(61,1) =	225.3500 185.0400	213.6600 130.6600	203.8500	193.7500
PARAMETER ASSY(67,1) =	105.0700 66.61000	90.10000 61.74000	80.32000	72.66000
PARAMETER ASSY(73,1) =	57.58000 44.98000	53.71000 42.50000	50.41000	47.54000
PARAMETER ASSY(79,1) =	40.31000 33.52000	38.35000 23.16000	36.59000	35.00000
PARAMETER ASSY(85,1) =	18.32000 12.84000	15.77000 12.37000	14.37000	13.53000
PARAMETER ASSY(91,1) =	11.96000 10.32000	11.47000 9.970000	11.04000	10.66000

PARAMETER ASSY(97,1) =	9.650000 8.610000	9.360000	9.090000	8.840000
PARAMETER ASSY(1,0) =	.1000000E-05 .4000000E-01	.1000000E-01 .5000000E-01	.2000000E-01	.3000000E-01
PARAMETER ASSY(7,0) =	.6000000E-01 .1000000	.7000000E-01 .1500000	.8000000E-01	.9000000E-01
PARAMETER ASSY(13,0) =	.2000000 .4000000	.2500000 .4500000	.3000000	.3500000
PARAMETER ASSY(19,0) =	.5000000 .7000000	.5500000 .7500000	.6000000	.6500000
PARAMETER ASSY(25,0) =	.8000000 1.000000	.8500000 1.500000	.9000000	.9500000
PARAMETER ASSY(31,0) =	2.000000 4.000000	2.500000 4.500000	3.000000	3.500000
PARAMETER ASSY(37,0) =	5.000000 7.000000	5.500000 7.500000	6.000000	6.500000
PARAMETER ASSY(43,0) =	8.000000 10.00000	8.500000 15.00000	9.000000	9.500000
PARAMETER ASSY(49,0) =	20.00000 40.00000	25.00000 45.00000	30.00000	35.00000
PARAMETER ASSY(55,0) =	50.00000 70.00000	55.00000 75.00000	60.00000	65.00000
PARAMETER ASSY(61,0) =	80.00000 100.0000	85.00000 150.0000	90.00000	95.00000
PARAMETER ASSY(67,0) =	200.0000 400.0000	250.0000 450.0000	300.0000	350.0000
PARAMETER ASSY(73,0) =	500.0000 700.0000	550.0000 750.0000	600.0000	650.0000
PARAMETER ASSY(79,0) =	800.0000 1000.000	850.0000 1500.000	900.0000	950.0000
PARAMETER ASSY(85,0) =	2000.000 4000.000	2500.000 4500.000	3000.000	3500.000
PARAMETER ASSY(91,0) =	5000.000 7000.000	5500.000 7500.000	6000.000	6500.000
PARAMETER ASSY(97,0) =	8000.000 10000.00	8500.000	9000.000	9500.000

PARAMETER ASSY(0,1) = 1.000000

FACTOR ON VECTOR OPERATION RESULT= .31558E+08
 FACTOR ON FIRST VECTOR PARAMETER = 1.0000
 FACTOR ON SECOND VECTOR PARAMETER= 1.0000
 FACTOR ON THIRD VECTOR PARAMETER = 1.0000

MATRIX COPY RESULT MATRIX= FUEL(1,0)
 INPUT MATRIX= ASSY(1,0)
 INPUT MATRIX SIZE= 101 ROWS BY 2 COLUMNS
 RESULT MATRIX SIZE= 101 ROWS BY 2 COLUMNS

FACTOR ON VECTOR OPERATION RESULT= 6.9478
 FACTOR ON FIRST VECTOR PARAMETER = 1.0000
 FACTOR ON SECOND VECTOR PARAMETER= 1.0000

FACTOR ON THIRD VECTOR PARAMETER = 1.0000

VECTOR PARAMETER OPERATION *VFUN
 FUEL(1) = COPY ASSY(1)
 SCALE FACTORS RESULT= 6.9478 INPUT= 1.0000
 VECTOR LENGTH= 101

PARAMETER FUEL(0,1) = 1.000000

Define new material 14 for SNF effective conductivity

Density: DENS (kg/m³)

Conductivity: KXX (W/m/K)

Specific Heat: C (J/kg/K)

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
 SLOC= 1 .000000E+00

PROPERTY TABLE DENS MAT= 14 NUM. POINTS= 1
 SLOC= 1 3960.040

PROPERTY TABLE C MAT= 14 NUM. POINTS= 1
 SLOC= 1 274.0000
 Store average effective conductivities

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

TEMPERATURE TABLE ERASED.

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 1 ***
 SLOC= 1 25.00000

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

*** PROPERTY TEMPERATURE TABLE NUM. TEMPS= 2 ***
 SLOC= 2 50.00000

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

PARAMETER IINC = 1.000000

PARAMETER TBSKT = 25.00000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 1
 SLOC= 1 .4617156

PARAMETER IINC = 2.000000

*DO LOOP ON PARAMETER= TBSKT FROM 50.000 TO 400.00 BY 50.000

PROPERTY TABLE KXX MAT= 14 NUM. POINTS= 2
 SLOC= 2 .5036997

PARAMETER IINC = 3.000000

*ENDDO INDEX= TBSKT

Construct geometry for Disposal Container

Define center and axis keypoints for waste package

Also, create placeholder keypoints and lines

(K's 1,2,3,4,5,6,7,8)

(L's 1,2,3,4)

KEYPOINT 1 X,Y,Z= .000000E+00 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 2 X,Y,Z= .000000E+00 .000000E+00 1.00000 IN CSYS= 0
 KEYPOINT 3 X,Y,Z= .000000E+00 .000000E+00 1.30000 IN CSYS= 0
 KEYPOINT 4 X,Y,Z= .000000E+00 .000000E+00 1.40000 IN CSYS= 0
 KEYPOINT 5 X,Y,Z= .000000E+00 .000000E+00 1.50000 IN CSYS= 0
 KEYPOINT 6 X,Y,Z= .000000E+00 .000000E+00 1.60000 IN CSYS= 0
 KEYPOINT 7 X,Y,Z= .000000E+00 .000000E+00 1.70000 IN CSYS= 0
 KEYPOINT 8 X,Y,Z= .000000E+00 .000000E+00 1.80000 IN CSYS= 0

LINE CONNECTS KEYPOINTS 3 4
 LINE NO.= 1 KP1= 3 TAN1= .0000 .0000 -1.0000
 KP2= 4 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 4 5
 LINE NO.= 2 KP1= 4 TAN1= .0000 .0000 -1.0000
 KP2= 5 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 5 6
 LINE NO.= 3 KP1= 5 TAN1= .0000 .0000 -1.0000
 KP2= 6 TAN2= .0000 .0000 1.0000

LINE CONNECTS KEYPOINTS 6 7
 LINE NO.= 4 KP1= 6 TAN1= .0000 .0000 -1.0000
 KP2= 7 TAN2= .0000 .0000 1.0000

Define disposal container outer radius and material interface
 (K's 9,10,11,12,13,14)
 (L's 5,6,7,8,9,10,11)
 (A's 1,2)

KEYPOINT 9 X,Y,Z= .000000E+00 -.814500 .000000E+00 IN CSYS= 0
 KEYPOINT 10 X,Y,Z= .814500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 11 X,Y,Z= .000000E+00 .814500 .000000E+00 IN CSYS= 0
 KEYPOINT 12 X,Y,Z= .000000E+00 -.714500 .000000E+00 IN CSYS= 0
 KEYPOINT 13 X,Y,Z= .714500 .000000E+00 .000000E+00 IN CSYS= 0
 KEYPOINT 14 X,Y,Z= .000000E+00 .714500 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 10 13
 LINE NO.= 5 KP1= 10 TAN1= 1.0000 .0000 .0000
 KP2= 13 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 10 AND 9 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 6 KP1= 10 TAN1= .0000 1.0000 .0000
 KP2= 9 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 11 AND 10 ORIENTATION KEYPOINT= 1
 RADIUS= .81450
 LINE NO.= 7 KP1= 11 TAN1= -1.0000 .0000 .0000
 KP2= 10 TAN2= .0000 -1.0000 .0000

ARC BETWEEN KEYPOINTS 13 AND 12 ORIENTATION KEYPOINT= 1
 RADIUS= .71450
 LINE NO.= 8 KP1= 13 TAN1= .0000 1.0000 .0000
 KP2= 12 TAN2= -1.0000 .0000 .0000

ARC BETWEEN KEYPOINTS 14 AND 13 ORIENTATION KEYPOINT= 1
 RADIUS= .71450

LINE NO.= 9 KP1= 14 TAN1= -1.0000 .0000 .0000
 KP2= 13 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 11 14
 LINE NO.= 10 KP1= 11 TAN1= .0000 1.0000 .0000
 KP2= 14 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 9 12
 LINE NO.= 11 KP1= 9 TAN1= .0000 -1.0000 .0000
 KP2= 12 TAN2= .0000 1.0000 .0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 5 6 11 8
 (TRAVERSED IN SAME DIRECTION AS LINE 5)

AREA NUMBER = 1

DEFINE AREA BY LIST OF LINES
 LINE LIST = 10 7 5 9
 (TRAVERSED IN SAME DIRECTION AS LINE 10)

AREA NUMBER = 2

Define UCF shell inner edge and area
 (K's 15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30)
 (31,32,33)
 (L's 12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27)
 (28,29,30,31,32)
 (A's 3,4)

KEYPOINT	15	X,Y,Z=	.000000E+00	.694500	.000000E+00	IN CSYS= 0
KEYPOINT	16	X,Y,Z=	.116750	.684616	.000000E+00	IN CSYS= 0
KEYPOINT	17	X,Y,Z=	.126750	.682836	.000000E+00	IN CSYS= 0
KEYPOINT	18	X,Y,Z=	.360250	.593759	.000000E+00	IN CSYS= 0
KEYPOINT	19	X,Y,Z=	.369750	.587890	.000000E+00	IN CSYS= 0
KEYPOINT	20	X,Y,Z=	.587890	.369750	.000000E+00	IN CSYS= 0
KEYPOINT	21	X,Y,Z=	.593759	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	22	X,Y,Z=	.682836	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	23	X,Y,Z=	.684616	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	24	X,Y,Z=	.694500	.000000E+00	.000000E+00	IN CSYS= 0
KEYPOINT	25	X,Y,Z=	.684616	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	26	X,Y,Z=	.682836	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	27	X,Y,Z=	.593759	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	28	X,Y,Z=	.587890	-.369750	.000000E+00	IN CSYS= 0
KEYPOINT	29	X,Y,Z=	.369750	-.587890	.000000E+00	IN CSYS= 0
KEYPOINT	30	X,Y,Z=	.360250	-.593759	.000000E+00	IN CSYS= 0
KEYPOINT	31	X,Y,Z=	.126750	-.682836	.000000E+00	IN CSYS= 0
KEYPOINT	32	X,Y,Z=	.116750	-.684616	.000000E+00	IN CSYS= 0
KEYPOINT	33	X,Y,Z=	.000000E+00	-.694500	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS 14 15
 LINE NO.= 12 KP1= 14 TAN1= .0000 1.0000 .0000

KP2=	15	TAN2=	.0000	-1.0000	.0000
ARC BETWEEN KEYPOINTS 16 AND 15 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	13	KP1=	16	TAN1=	.9858 -1.1681 .0000
		KP2=	15	TAN2=	-1.0000 .0000 .0000
ARC BETWEEN KEYPOINTS 17 AND 16 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	14	KP1=	17	TAN1=	.9832 -.1825 .0000
		KP2=	16	TAN2=	-.9858 .1681 .0000
ARC BETWEEN KEYPOINTS 18 AND 17 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	15	KP1=	18	TAN1=	.8549 -.5187 .0000
		KP2=	17	TAN2=	-.9832 .1825 .0000
ARC BETWEEN KEYPOINTS 19 AND 18 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	16	KP1=	19	TAN1=	.8465 -.5324 .0000
		KP2=	18	TAN2=	-.8549 .5187 .0000
ARC BETWEEN KEYPOINTS 20 AND 19 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	17	KP1=	20	TAN1=	.5324 -.8465 .0000
		KP2=	19	TAN2=	-.8465 .5324 .0000
ARC BETWEEN KEYPOINTS 21 AND 20 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	18	KP1=	21	TAN1=	.5187 -.8549 .0000
		KP2=	20	TAN2=	-.5324 .8465 .0000
ARC BETWEEN KEYPOINTS 22 AND 21 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	19	KP1=	22	TAN1=	.1825 -.9832 .0000
		KP2=	21	TAN2=	-.5187 .8549 .0000
ARC BETWEEN KEYPOINTS 23 AND 22 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	20	KP1=	23	TAN1=	.1681 -.9858 .0000
		KP2=	22	TAN2=	-.1825 .9832 .0000
ARC BETWEEN KEYPOINTS 24 AND 23 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	21	KP1=	24	TAN1=	.0000 -1.0000 .0000
		KP2=	23	TAN2=	-.1681 .9858 .0000
ARC BETWEEN KEYPOINTS 25 AND 24 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	22	KP1=	25	TAN1=	-.1681 -.9858 .0000
		KP2=	24	TAN2=	.0000 1.0000 .0000
ARC BETWEEN KEYPOINTS 26 AND 25 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	23	KP1=	26	TAN1=	-.1825 -.9832 .0000
		KP2=	25	TAN2=	.1681 .9858 .0000
ARC BETWEEN KEYPOINTS 27 AND 26 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	24	KP1=	27	TAN1=	-.5187 -.8549 .0000
		KP2=	26	TAN2=	.1825 .9832 .0000
ARC BETWEEN KEYPOINTS 28 AND 27 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	25	KP1=	28	TAN1=	-.5324 -.8465 .0000
		KP2=	27	TAN2=	.5187 .8549 .0000
ARC BETWEEN KEYPOINTS 29 AND 28 ORIENTATION KEYPOINT= 1					
RADIUS=	.69450				
LINE NO.=	26	KP1=	29	TAN1=	-.8465 -.5324 .0000

```

      KP2=      28 TAN2=      .5324      .8465      .0000
ARC BETWEEN KEYPOINTS      30 AND      29 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      27 KP1=      30 TAN1=      -.8549      -.5187      .0000
      KP2=      29 TAN2=      .8465      .5324      .0000

ARC BETWEEN KEYPOINTS      31 AND      30 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      28 KP1=      31 TAN1=      -.9832      -.1825      .0000
      KP2=      30 TAN2=      .8549      .5187      .0000

ARC BETWEEN KEYPOINTS      32 AND      31 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      29 KP1=      32 TAN1=      -.9858      -.1681      .0000
      KP2=      31 TAN2=      .9832      .1825      .0000

ARC BETWEEN KEYPOINTS      33 AND      32 ORIENTATION KEYPOINT=      1
RADIUS=      .69450
LINE NO.=      30 KP1=      33 TAN1=      -1.0000      .0000      .0000
      KP2=      32 TAN2=      .9858      .1681      .0000

LINE CONNECTS KEYPOINTS      33      12
LINE NO.=      31 KP1=      33 TAN1=      .0000      1.0000      .0000
      KP2=      12 TAN2=      .0000      -1.0000      .0000

LINE CONNECTS KEYPOINTS      24      13
LINE NO.=      32 KP1=      24 TAN1=      -1.0000      .0000      .0000
      KP2=      13 TAN2=      1.0000      .0000      .0000

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE      12 TO      21 STEP      1

```

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE      9 TO      9 STEP      1

```

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE      32 TO      32 STEP      1

```

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

```

DEFINE AREA BY LIST OF LINES
LINE LIST = ALL SELECTED LINES
(TRAVERSED IN SAME DIRECTION AS LINE      9)

```

AREA NUMBER = 3

```

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE      22 TO      31 STEP      1

```

10 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE      8 TO      8 STEP      1

```

11 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE      32 TO      32 STEP      1

```

12 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

```

DEFINE AREA BY LIST OF LINES
LINE LIST = ALL SELECTED LINES
(TRAVERSED IN SAME DIRECTION AS LINE      8)

```


AREA NUMBER = 4

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 32 STEP 1

32 LINES (OF 32 DEFINED) SELECTED BY LSEL COMMAND.

Define tube guides
(K's 34,35,36,37)
(L's 33,34,35,36,37,38,39,40,41,42)
(A's 5,6,7,8,9,10)

top guide

KEYPOINT 34 X,Y,Z= .360250 .360250 .000000E+00 IN CSYS= 0

KEYPOINT 35 X,Y,Z= .369750 .369750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 19 35
LINE NO.= 33 KP1= 19 TAN1= .0000 1.0000 .0000
KP2= 35 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 35 20
LINE NO.= 34 KP1= 35 TAN1= -1.0000 .0000 .0000
KP2= 20 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 21 34
LINE NO.= 35 KP1= 21 TAN1= 1.0000 .0000 .0000
KP2= 34 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 18
LINE NO.= 36 KP1= 34 TAN1= .0000 -1.0000 .0000
KP2= 18 TAN2= .0000 1.0000 .0000

bottom guide

KEYPOINT 36 X,Y,Z= .369750 -.369750 .000000E+00 IN CSYS= 0

KEYPOINT 37 X,Y,Z= .360250 -.360250 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 28 36
LINE NO.= 37 KP1= 28 TAN1= 1.0000 .0000 .0000
KP2= 36 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 36 29
LINE NO.= 38 KP1= 36 TAN1= .0000 1.0000 .0000
KP2= 29 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 30 37
LINE NO.= 39 KP1= 30 TAN1= .0000 -1.0000 .0000
KP2= 37 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 37 27
LINE NO.= 40 KP1= 37 TAN1= -1.0000 .0000 .0000
KP2= 27 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 34 35
LINE NO.= 41 KP1= 34 TAN1= -.7071 -.7071 .0000
KP2= 35 TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS 37 36
LINE NO.= 42 KP1= 37 TAN1= -.7071 .7071 .0000
KP2= 36 TAN2= .7071 -.7071 .0000

Guide gaps

DEFINE AREA BY LIST OF LINES

LINE LIST = 17 33 34
(TRAVERSED IN SAME DIRECTION AS LINE 17)

AREA NUMBER = 5

DEFINE AREA BY LIST OF LINES

LINE LIST = 26 37 38
(TRAVERSED IN SAME DIRECTION AS LINE 26)

AREA NUMBER = 6
Guide steel

DEFINE AREA BY LIST OF LINES

LINE LIST = 16 33 41 36
(TRAVERSED IN SAME DIRECTION AS LINE 16)

AREA NUMBER = 7

DEFINE AREA BY LIST OF LINES

LINE LIST = 18 35 41 34
(TRAVERSED IN SAME DIRECTION AS LINE 18)

AREA NUMBER = 8

DEFINE AREA BY LIST OF LINES

LINE LIST = 25 37 42 40
(TRAVERSED IN SAME DIRECTION AS LINE 25)

AREA NUMBER = 9

DEFINE AREA BY LIST OF LINES

LINE LIST = 27 39 42 38
(TRAVERSED IN SAME DIRECTION AS LINE 27)

AREA NUMBER = 10

Define thermal shunts

(K's 38,39,40,41,42,43,44,45,46,47,48,49,50)

(51,52,53,54,55,56,57,58,59,60,61,62,63,64,65)

(L's 43,44,45,46,47,48,49)

(50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66)

(67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83)

(84,85,86,87,88,89,90)

(A's 11 - 27)

top horizontal thermal shunt

KEYPOINT	38	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	39	X,Y,Z=	.000000E+00	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	40	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	41	X,Y,Z=	.116750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	42	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	43	X,Y,Z=	.126750	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	44	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	45	X,Y,Z=	.360250	.126750	.000000E+00	IN CSYS= 0
KEYPOINT	46	X,Y,Z=	.593750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	47	X,Y,Z=	.593750	.126750	.000000E+00	IN CSYS= 0
bottom horizontal thermal shunt						
KEYPOINT	48	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	49	X,Y,Z=	.000000E+00	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	50	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	51	X,Y,Z=	.116750	-.126750	.000000E+00	IN CSYS= 0

KEYPOINT	52	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	53	X,Y,Z=	.126750	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	54	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	55	X,Y,Z=	.360250	-.126750	.000000E+00	IN CSYS= 0
KEYPOINT	56	X,Y,Z=	.593750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	57	X,Y,Z=	.593750	-.126750	.000000E+00	IN CSYS= 0
		right vertical thermal shunt				
KEYPOINT	58	X,Y,Z=	.116750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	59	X,Y,Z=	.126750	.593750	.000000E+00	IN CSYS= 0
KEYPOINT	60	X,Y,Z=	.116750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	61	X,Y,Z=	.126750	.360250	.000000E+00	IN CSYS= 0
KEYPOINT	62	X,Y,Z=	.116750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	63	X,Y,Z=	.126750	-.360250	.000000E+00	IN CSYS= 0
KEYPOINT	64	X,Y,Z=	.116750	-.593750	.000000E+00	IN CSYS= 0
KEYPOINT	65	X,Y,Z=	.126750	-.593750	.000000E+00	IN CSYS= 0
		Lines; shunt widths, top, bottom, then vertical: (43-60)				

LINE CONNECTS KEYPOINTS	38	39			
LINE NO.= 43	KP1= 38	TAN1=	.0000	-1.0000	.0000
	KP2= 39	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	40	41			
LINE NO.= 44	KP1= 40	TAN1=	.0000	-1.0000	.0000
	KP2= 41	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	42	43			
LINE NO.= 45	KP1= 42	TAN1=	.0000	-1.0000	.0000
	KP2= 43	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	44	45			
LINE NO.= 46	KP1= 44	TAN1=	.0000	-1.0000	.0000
	KP2= 45	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	46	47			
LINE NO.= 47	KP1= 46	TAN1=	.0000	-1.0000	.0000
	KP2= 47	TAN2=	.0000	1.0000	.0000

LINE CONNECTS KEYPOINTS	48	49			
LINE NO.= 48	KP1= 48	TAN1=	.0000	1.0000	.0000
	KP2= 49	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	50	51			
LINE NO.= 49	KP1= 50	TAN1=	.0000	1.0000	.0000
	KP2= 51	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	52	53			
LINE NO.= 50	KP1= 52	TAN1=	.0000	1.0000	.0000
	KP2= 53	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	54	55			
LINE NO.= 51	KP1= 54	TAN1=	.0000	1.0000	.0000
	KP2= 55	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS	56	57			
LINE NO.= 52	KP1= 56	TAN1=	.0000	1.0000	.0000
	KP2= 57	TAN2=	.0000	-1.0000	.0000

LINE CONNECTS KEYPOINTS 58 59
 LINE NO.= 53 KP1= 58 TAN1= -1.0000 .0000 .0000
 KP2= 59 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 60 61
 LINE NO.= 54 KP1= 60 TAN1= -1.0000 .0000 .0000
 KP2= 61 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 41 43
 LINE NO.= 55 KP1= 41 TAN1= -1.0000 .0000 .0000
 KP2= 43 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 40 42
 LINE NO.= 56 KP1= 40 TAN1= -1.0000 .0000 .0000
 KP2= 42 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 50 52
 LINE NO.= 57 KP1= 50 TAN1= -1.0000 .0000 .0000
 KP2= 52 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 51 53
 LINE NO.= 58 KP1= 51 TAN1= -1.0000 .0000 .0000
 KP2= 53 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 62 63
 LINE NO.= 59 KP1= 62 TAN1= -1.0000 .0000 .0000
 KP2= 63 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 64 65
 LINE NO.= 60 KP1= 64 TAN1= -1.0000 .0000 .0000
 KP2= 65 TAN2= 1.0000 .0000 .0000

Lines; shunt edges, top, bottom, then vertical: (61-90)

LINE CONNECTS KEYPOINTS 39 41
 LINE NO.= 61 KP1= 39 TAN1= -1.0000 .0000 .0000
 KP2= 41 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 40 38
 LINE NO.= 62 KP1= 40 TAN1= 1.0000 .0000 .0000
 KP2= 38 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 43 45
 LINE NO.= 63 KP1= 43 TAN1= -1.0000 .0000 .0000
 KP2= 45 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 44 42
 LINE NO.= 64 KP1= 44 TAN1= 1.0000 .0000 .0000
 KP2= 42 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 45 47
 LINE NO.= 65 KP1= 45 TAN1= -1.0000 .0000 .0000
 KP2= 47 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 46 44
 LINE NO.= 66 KP1= 46 TAN1= 1.0000 .0000 .0000
 KP2= 44 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 47 22
 LINE NO.= 67 KP1= 47 TAN1= -1.0000 .0000 .0000
 KP2= 22 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 23 46
 LINE NO.= 68 KP1= 23 TAN1= 1.0000 .0000 .0000
 KP2= 46 TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 48 50
 LINE NO.= 69 KP1= 48 TAN1= -1.0000 .0000 .0000
 KP2= 50 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS		51	49			
LINE NO.=	70	KP1=	51	TAN1=	1.0000	.0000 .0000
		KP2=	49	TAN2=	-1.0000	.0000 .0000
LINE CONNECTS KEYPOINTS		52	54			
LINE NO.=	71	KP1=	52	TAN1=	-1.0000	.0000 .0000
		KP2=	54	TAN2=	1.0000	.0000 .0000
LINE CONNECTS KEYPOINTS		55	53			
LINE NO.=	72	KP1=	55	TAN1=	1.0000	.0000 .0000
		KP2=	53	TAN2=	-1.0000	.0000 .0000
LINE CONNECTS KEYPOINTS		54	56			
LINE NO.=	73	KP1=	54	TAN1=	-1.0000	.0000 .0000
		KP2=	56	TAN2=	1.0000	.0000 .0000
LINE CONNECTS KEYPOINTS		57	55			
LINE NO.=	74	KP1=	57	TAN1=	1.0000	.0000 .0000
		KP2=	55	TAN2=	-1.0000	.0000 .0000
LINE CONNECTS KEYPOINTS		56	25			
LINE NO.=	75	KP1=	56	TAN1=	-1.0000	.0000 .0000
		KP2=	25	TAN2=	1.0000	.0000 .0000
LINE CONNECTS KEYPOINTS		26	57			
LINE NO.=	76	KP1=	26	TAN1=	1.0000	.0000 .0000
		KP2=	57	TAN2=	-1.0000	.0000 .0000
LINE CONNECTS KEYPOINTS		58	16			
LINE NO.=	77	KP1=	58	TAN1=	.0000	-1.0000 .0000
		KP2=	16	TAN2=	.0000	1.0000 .0000
LINE CONNECTS KEYPOINTS		17	59			
LINE NO.=	78	KP1=	17	TAN1=	.0000	1.0000 .0000
		KP2=	59	TAN2=	.0000	-1.0000 .0000
LINE CONNECTS KEYPOINTS		60	58			
LINE NO.=	79	KP1=	60	TAN1=	.0000	-1.0000 .0000
		KP2=	58	TAN2=	.0000	1.0000 .0000
LINE CONNECTS KEYPOINTS		59	61			
LINE NO.=	80	KP1=	59	TAN1=	.0000	1.0000 .0000
		KP2=	61	TAN2=	.0000	-1.0000 .0000
LINE CONNECTS KEYPOINTS		41	60			
LINE NO.=	81	KP1=	41	TAN1=	.0000	-1.0000 .0000
		KP2=	60	TAN2=	.0000	1.0000 .0000
LINE CONNECTS KEYPOINTS		61	43			
LINE NO.=	82	KP1=	61	TAN1=	.0000	1.0000 .0000
		KP2=	43	TAN2=	.0000	-1.0000 .0000
LINE CONNECTS KEYPOINTS		50	40			
LINE NO.=	83	KP1=	50	TAN1=	.0000	-1.0000 .0000
		KP2=	40	TAN2=	.0000	1.0000 .0000
LINE CONNECTS KEYPOINTS		42	52			
LINE NO.=	84	KP1=	42	TAN1=	.0000	1.0000 .0000
		KP2=	52	TAN2=	.0000	-1.0000 .0000
LINE CONNECTS KEYPOINTS		62	51			
LINE NO.=	85	KP1=	62	TAN1=	.0000	-1.0000 .0000
		KP2=	51	TAN2=	.0000	1.0000 .0000
LINE CONNECTS KEYPOINTS		53	63			
LINE NO.=	86	KP1=	53	TAN1=	.0000	1.0000 .0000
		KP2=	63	TAN2=	.0000	-1.0000 .0000
LINE CONNECTS KEYPOINTS		64	62			
LINE NO.=	87	KP1=	64	TAN1=	.0000	-1.0000 .0000

```

                KP2=      62 TAN2=      .0000      1.0000      .0000
LINE CONNECTS KEYPOINTS      63      65
LINE NO.=      88 KP1=      63 TAN1=      .0000      1.0000      .0000
                KP2=      65 TAN2=      .0000     -1.0000      .0000

LINE CONNECTS KEYPOINTS      32      64
LINE NO.=      89 KP1=      32 TAN1=      .0000     -1.0000      .0000
                KP2=      64 TAN2=      .0000      1.0000      .0000

LINE CONNECTS KEYPOINTS      65      31
LINE NO.=      90 KP1=      65 TAN1=      .0000      1.0000      .0000
                KP2=      31 TAN2=      .0000     -1.0000      .0000
define areas for thermal shunts

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      43      61      44      62
(TRAVERSED IN SAME DIRECTION AS LINE      43)

AREA NUMBER =      11

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      44      55      45      56
(TRAVERSED IN SAME DIRECTION AS LINE      44)

AREA NUMBER =      12

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      45      63      46      64
(TRAVERSED IN SAME DIRECTION AS LINE      45)

AREA NUMBER =      13

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      46      65      47      66
(TRAVERSED IN SAME DIRECTION AS LINE      46)

AREA NUMBER =      14

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      47      67      20      68
(TRAVERSED IN SAME DIRECTION AS LINE      47)

AREA NUMBER =      15

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      48      69      49      70
(TRAVERSED IN SAME DIRECTION AS LINE      48)

AREA NUMBER =      16

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      49      57      50      58
(TRAVERSED IN SAME DIRECTION AS LINE      49)

AREA NUMBER =      17

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      50      71      51      72
(TRAVERSED IN SAME DIRECTION AS LINE      50)

AREA NUMBER =      18

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST =      51      73      52      74
(TRAVERSED IN SAME DIRECTION AS LINE      51)

AREA NUMBER =      19

```

```

DEFINE AREA BY LIST OF LINES

```

LINE LIST = 52 75 23 76
(TRAVERSED IN SAME DIRECTION AS LINE 52)

AREA NUMBER = 20

DEFINE AREA BY LIST OF LINES
LINE LIST = 14 77 53 78
(TRAVERSED IN SAME DIRECTION AS LINE 14)

AREA NUMBER = 21

DEFINE AREA BY LIST OF LINES
LINE LIST = 53 79 54 80
(TRAVERSED IN SAME DIRECTION AS LINE 53)

AREA NUMBER = 22

DEFINE AREA BY LIST OF LINES
LINE LIST = 54 81 55 82
(TRAVERSED IN SAME DIRECTION AS LINE 54)

AREA NUMBER = 23

DEFINE AREA BY LIST OF LINES
LINE LIST = 56 83 57 84
(TRAVERSED IN SAME DIRECTION AS LINE 56)

AREA NUMBER = 24

DEFINE AREA BY LIST OF LINES
LINE LIST = 58 85 59 86
(TRAVERSED IN SAME DIRECTION AS LINE 58)

AREA NUMBER = 25

DEFINE AREA BY LIST OF LINES
LINE LIST = 59 87 60 88
(TRAVERSED IN SAME DIRECTION AS LINE 59)

AREA NUMBER = 26

DEFINE AREA BY LIST OF LINES
LINE LIST = 60 89 29 90
(TRAVERSED IN SAME DIRECTION AS LINE 60)

AREA NUMBER = 27

Define shell gaps at the exterior of the tube array
(K's 66 - 67)
(L's 91 - 99)
(A's 28 - 34)

KEYPOINT 66 X,Y,Z= .000000E+00 .593750 .000000E+00 IN CSYS= 0
KEYPOINT 67 X,Y,Z= .000000E+00 -.593750 .000000E+00 IN CSYS= 0

LINE CONNECTS KEYPOINTS 15 66
LINE NO.= 91 KP1= 15 TAN1= .0000 1.0000 .0000
KP2= 66 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 66 58
LINE NO.= 92 KP1= 66 TAN1= -1.0000 .0000 .0000
KP2= 58 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS 59 18
LINE NO.= 93 KP1= 59 TAN1= -1.0000 .0000 .0000
KP2= 18 TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS		21	47			
LINE NO.=	94	KP1=	21	TAN1=	.0000	1.0000
		KP2=	47	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		46	56			
LINE NO.=	95	KP1=	46	TAN1=	.0000	1.0000
		KP2=	56	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		57	27			
LINE NO.=	96	KP1=	57	TAN1=	.0000	1.0000
		KP2=	27	TAN2=	.0000	-1.0000
LINE CONNECTS KEYPOINTS		30	65			
LINE NO.=	97	KP1=	30	TAN1=	1.0000	.0000
		KP2=	65	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS		64	67			
LINE NO.=	98	KP1=	64	TAN1=	1.0000	.0000
		KP2=	67	TAN2=	-1.0000	.0000
LINE CONNECTS KEYPOINTS		67	33			
LINE NO.=	99	KP1=	67	TAN1=	.0000	1.0000
		KP2=	33	TAN2=	.0000	-1.0000

DEFINE AREA BY LIST OF LINES
 LINE LIST = 13 91 92 77
 (TRAVERSED IN SAME DIRECTION AS LINE 13)

AREA NUMBER = 28

DEFINE AREA BY LIST OF LINES
 LINE LIST = 15 78 93
 (TRAVERSED IN SAME DIRECTION AS LINE 15)

AREA NUMBER = 29

DEFINE AREA BY LIST OF LINES
 LINE LIST = 19 94 67
 (TRAVERSED IN SAME DIRECTION AS LINE 19)

AREA NUMBER = 30

DEFINE AREA BY LIST OF LINES
 LINE LIST = 21 68 95 75 22
 (TRAVERSED IN SAME DIRECTION AS LINE 21)

AREA NUMBER = 31

DEFINE AREA BY LIST OF LINES
 LINE LIST = 24 76 96
 (TRAVERSED IN SAME DIRECTION AS LINE 24)

AREA NUMBER = 32

DEFINE AREA BY LIST OF LINES
 LINE LIST = 28 97 90
 (TRAVERSED IN SAME DIRECTION AS LINE 28)

AREA NUMBER = 33

DEFINE AREA BY LIST OF LINES
 LINE LIST = 30 89 98 99
 (TRAVERSED IN SAME DIRECTION AS LINE 30)

AREA NUMBER = 34

 Define center half-tube
 (K's 68-75)
 (L's 100-110)

(A's 35-38)

KEYPOINT	68	X,Y,Z=	.000000E+00	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	69	X,Y,Z=	.111750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	70	X,Y,Z=	.000000E+00	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	71	X,Y,Z=	.111750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	72	X,Y,Z=	.000000E+00	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	73	X,Y,Z=	.116750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	74	X,Y,Z=	.000000E+00	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	75	X,Y,Z=	.116750	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS		70	68			
LINE NO.=	100	KP1=	70	TAN1=	.0000	-1.0000
		KP2=	68	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		70	74			
LINE NO.=	101	KP1=	70	TAN1=	.0000	1.0000
		KP2=	74	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		68	72			
LINE NO.=	102	KP1=	68	TAN1=	.0000	-1.0000
		KP2=	72	TAN2=	.0000	1.0000

LINE CONNECTS KEYPOINTS		71	75			
LINE NO.=	103	KP1=	71	TAN1=	-.7071	.7071
		KP2=	75	TAN2=	.7071	-.7071

LINE CONNECTS KEYPOINTS		69	73			
LINE NO.=	104	KP1=	69	TAN1=	-.7071	-.7071
		KP2=	73	TAN2=	.7071	.7071

LINE CONNECTS KEYPOINTS		75	74			
LINE NO.=	105	KP1=	75	TAN1=	1.0000	.0000
		KP2=	74	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		71	70			
LINE NO.=	106	KP1=	71	TAN1=	1.0000	.0000
		KP2=	70	TAN2=	-1.0000	.0000

LINE CONNECTS KEYPOINTS		68	69			
LINE NO.=	107	KP1=	68	TAN1=	-1.0000	.0000
		KP2=	69	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		72	73			
LINE NO.=	108	KP1=	72	TAN1=	-1.0000	.0000
		KP2=	73	TAN2=	1.0000	.0000

LINE CONNECTS KEYPOINTS		69	71			
LINE NO.=	109	KP1=	69	TAN1=	.0000	1.0000
		KP2=	71	TAN2=	.0000	-1.0000

LINE CONNECTS KEYPOINTS		73	75			
LINE NO.=	110	KP1=	73	TAN1=	.0000	1.0000
		KP2=	75	TAN2=	.0000	-1.0000

DEFINE AREA BY LIST OF LINES

LINE LIST = 100 106 109 107
(TRAVERSED IN SAME DIRECTION AS LINE 100)

AREA NUMBER = 35

DEFINE AREA BY LIST OF LINES

LINE LIST = 101 105 103 106

(TRAVERSED IN SAME DIRECTION AS LINE 101)

AREA NUMBER = 36

DEFINE AREA BY LIST OF LINES

LINE LIST = 109 103 110 104

(TRAVERSED IN SAME DIRECTION AS LINE 109)

AREA NUMBER = 37

DEFINE AREA BY LIST OF LINES

LINE LIST = 102 107 104 108

(TRAVERSED IN SAME DIRECTION AS LINE 102)

AREA NUMBER = 38

Define center full-tube

(K's 76 - 83)

(L's 111 - 122)

(A's 39 - 43)

KEYPOINT	76	X,Y,Z=	.131750	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	77	X,Y,Z=	.355250	.111750	.000000E+00	IN CSYS= 0
KEYPOINT	78	X,Y,Z=	.131750	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	79	X,Y,Z=	.355250	-.111750	.000000E+00	IN CSYS= 0
KEYPOINT	80	X,Y,Z=	.126750	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	81	X,Y,Z=	.360250	.116750	.000000E+00	IN CSYS= 0
KEYPOINT	82	X,Y,Z=	.126750	-.116750	.000000E+00	IN CSYS= 0
KEYPOINT	83	X,Y,Z=	.360250	-.116750	.000000E+00	IN CSYS= 0

LINE CONNECTS KEYPOINTS	78	82
LINE NO.= 111	KP1= 78	TAN1= .7071 .7071 .0000
	KP2= 82	TAN2= -.7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	76	80
LINE NO.= 112	KP1= 76	TAN1= .7071 -.7071 .0000
	KP2= 80	TAN2= -.7071 .7071 .0000

LINE CONNECTS KEYPOINTS	79	83
LINE NO.= 113	KP1= 79	TAN1= -.7071 .7071 .0000
	KP2= 83	TAN2= .7071 -.7071 .0000

LINE CONNECTS KEYPOINTS	77	81
LINE NO.= 114	KP1= 77	TAN1= -.7071 -.7071 .0000
	KP2= 81	TAN2= .7071 .7071 .0000

LINE CONNECTS KEYPOINTS	83	82
LINE NO.= 115	KP1= 83	TAN1= 1.0000 .0000 .0000
	KP2= 82	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	79	78
LINE NO.= 116	KP1= 79	TAN1= 1.0000 .0000 .0000
	KP2= 78	TAN2= -1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	76	77
LINE NO.= 117	KP1= 76	TAN1= -1.0000 .0000 .0000
	KP2= 77	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	80	81
LINE NO.= 118	KP1= 80	TAN1= -1.0000 .0000 .0000
	KP2= 81	TAN2= 1.0000 .0000 .0000

LINE CONNECTS KEYPOINTS	82	80
-------------------------	----	----

```

LINE NO.= 119 KP1= 82 TAN1= .0000 -1.0000 .0000
              KP2= 80 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 78 76
LINE NO.= 120 KP1= 78 TAN1= .0000 -1.0000 .0000
              KP2= 76 TAN2= .0000 1.0000 .0000

LINE CONNECTS KEYPOINTS 77 79
LINE NO.= 121 KP1= 77 TAN1= .0000 1.0000 .0000
              KP2= 79 TAN2= .0000 -1.0000 .0000

LINE CONNECTS KEYPOINTS 81 83
LINE NO.= 122 KP1= 81 TAN1= .0000 1.0000 .0000
              KP2= 83 TAN2= .0000 -1.0000 .0000

```

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 120 116 121 117
(TRAVERSED IN SAME DIRECTION AS LINE 120)

```

AREA NUMBER = 39

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 119 111 120 112
(TRAVERSED IN SAME DIRECTION AS LINE 119)

```

AREA NUMBER = 40

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 111 115 113 116
(TRAVERSED IN SAME DIRECTION AS LINE 111)

```

AREA NUMBER = 41

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 121 113 122 114
(TRAVERSED IN SAME DIRECTION AS LINE 121)

```

AREA NUMBER = 42

```

DEFINE AREA BY LIST OF LINES
LINE LIST = 112 117 114 118
(TRAVERSED IN SAME DIRECTION AS LINE 112)

```

AREA NUMBER = 43

```

Set element shapes and sizes for tubes
14x14 mesh in fuel with 2
divisions per tube layer

```

```

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

```

DEFAULT ELEMENT DIVISIONS PER LINE = 1

```

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    115 TO      122 STEP      1

```

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE    109 TO      110 STEP      1

```

10 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

```

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE    100 TO      100 STEP      1

```

11 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

```
TO NDIV = 14, SPACING RATIO = 1.000

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    105 TO      108 STEP      1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000

SELECT      FOR ITEM=LINE COMPONENT=
IN RANGE    101 TO      104 STEP      1

4 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE     111 TO      114 STEP      1

8 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 2, SPACING RATIO = 1.000

ALL SELECT  FOR ITEM=LINE COMPONENT=
IN RANGE     1 TO      122 STEP      1

122 LINES (OF 122 DEFINED) SELECTED BY LSEL COMMAND.
```

Mesh areas
first fuel, then stainless tubes

```
MATERIAL NUMBER SET TO 14

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 35 TO 35 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 120
MAXIMUM ELEMENT NUMBER = 98

GENERATE NODES AND ELEMENTS
IN AREAS 39 TO 39 IN STEPS OF 1

NUMBER OF AREAS MESHED = 1
MAXIMUM NODE NUMBER = 345
MAXIMUM ELEMENT NUMBER = 294

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 36 TO 38 IN STEPS OF 1

NUMBER OF AREAS MESHED = 3
MAXIMUM NODE NUMBER = 403
MAXIMUM ELEMENT NUMBER = 350

GENERATE NODES AND ELEMENTS
IN AREAS 40 TO 43 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 515
MAXIMUM ELEMENT NUMBER = 462
```

Copy tube mesh

center half tube above and below

(A's 44 - 47)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 693
 MAXIMUM ELEMENT NUMBER = 616

(A's 48 - 51)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 871
 MAXIMUM ELEMENT NUMBER = 770

(A's 52 - 55)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1049
 MAXIMUM ELEMENT NUMBER = 924

(A's 56 - 59)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 35 TO 38 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1227
 MAXIMUM ELEMENT NUMBER = 1078

center full tube side, above, and below
 (A's 60 - 64 = Side)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .234 .000E+00 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1564
 MAXIMUM ELEMENT NUMBER = 1386

(A's 65 - 69 = up 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 1901
 MAXIMUM ELEMENT NUMBER = 1694

(A's 70 - 74 = up 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2238
 MAXIMUM ELEMENT NUMBER = 2002

(A's 75 - 79 = down 1)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2575
 MAXIMUM ELEMENT NUMBER = 2310

(A's 80 - 84 = down 2)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 39 TO 43 IN STEPS OF 1

DX,DY,DZ= .000E+00 -.477 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 2912
 MAXIMUM ELEMENT NUMBER = 2618
 center full tube get corners
 (A's 85 - 89 = up corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 .244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3249
 MAXIMUM ELEMENT NUMBER = 2926
 (A's 90 - 94 = down corner)

GENERATE 2 TOTAL SETS OF AREAS
 SET IS FROM 60 TO 64 IN STEPS OF 1
 DX,DY,DZ= .000E+00 -.244 .000E+00 CSYS= 0

MAXIMUM NODE NUMBER = 3586
 MAXIMUM ELEMENT NUMBER = 3234

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 814	USED FOR NODES	1214
NODE 680	USED FOR NODES	992
NODE 822	USED FOR NODES	1216
NODE 682	USED FOR NODES	1000
NODE 821	USED FOR NODES	1217
NODE 683	USED FOR NODES	999
NODE 820	USED FOR NODES	1218
NODE 684	USED FOR NODES	998
NODE 819	USED FOR NODES	1219
NODE 685	USED FOR NODES	997
NODE 818	USED FOR NODES	1220
NODE 686	USED FOR NODES	996
NODE 687	USED FOR NODES	995
NODE 817	USED FOR NODES	1221
NODE 816	USED FOR NODES	1186
NODE 652	USED FOR NODES	994
NODE 1791	USED FOR NODES	2127
NODE 2464	USED FOR NODES	2802
NODE 1876	USED FOR NODES	2170
NODE 2507	USED FOR NODES	2887
NODE 1877	USED FOR NODES	2169
NODE 2506	USED FOR NODES	2888
NODE 1878	USED FOR NODES	2168
NODE 2505	USED FOR NODES	2889
NODE 1879	USED FOR NODES	2167
NODE 2504	USED FOR NODES	2890
NODE 1880	USED FOR NODES	2166
NODE 2503	USED FOR NODES	2891
NODE 1881	USED FOR NODES	2165
NODE 2502	USED FOR NODES	2892
NODE 1882	USED FOR NODES	2164
NODE 2501	USED FOR NODES	2893
NODE 1883	USED FOR NODES	2163
NODE 2500	USED FOR NODES	2894
NODE 1884	USED FOR NODES	2162
NODE 2499	USED FOR NODES	2895
NODE 1885	USED FOR NODES	2161
NODE 2498	USED FOR NODES	2896
NODE 1886	USED FOR NODES	2160
NODE 2497	USED FOR NODES	2897
NODE 1887	USED FOR NODES	2159
NODE 2496	USED FOR NODES	2898
NODE 1888	USED FOR NODES	2158
NODE 2495	USED FOR NODES	2899
NODE 2494	USED FOR NODES	2859 3475
NODE 2522	USED FOR NODES	3476

NODE 2535	USED FOR NODES	3477
NODE 2534	USED FOR NODES	3478
NODE 2533	USED FOR NODES	3479
NODE 2532	USED FOR NODES	3480
NODE 1820	USED FOR NODES	3138
NODE 1848	USED FOR NODES	2157 3139
NODE 1861	USED FOR NODES	3140
NODE 434	USED FOR NODES	1453
NODE 462	USED FOR NODES	1454
NODE 475	USED FOR NODES	1455
NODE 2523	USED FOR NODES	3489
NODE 2524	USED FOR NODES	3488
NODE 2525	USED FOR NODES	3487
NODE 2526	USED FOR NODES	3486
NODE 2527	USED FOR NODES	3485
NODE 2528	USED FOR NODES	3484
NODE 2529	USED FOR NODES	3483
NODE 2530	USED FOR NODES	3482
NODE 2531	USED FOR NODES	3481
NODE 474	USED FOR NODES	1456
NODE 473	USED FOR NODES	1457
NODE 472	USED FOR NODES	1458
NODE 471	USED FOR NODES	1459
NODE 470	USED FOR NODES	1460
NODE 469	USED FOR NODES	1461
NODE 468	USED FOR NODES	1462
NODE 467	USED FOR NODES	1463
NODE 463	USED FOR NODES	1467
NODE 466	USED FOR NODES	1464
NODE 464	USED FOR NODES	1466
NODE 465	USED FOR NODES	1465
NODE 1860	USED FOR NODES	3141
NODE 1859	USED FOR NODES	3142
NODE 1858	USED FOR NODES	3143
NODE 1857	USED FOR NODES	3144
NODE 1856	USED FOR NODES	3145
NODE 1855	USED FOR NODES	3146
NODE 1854	USED FOR NODES	3147
NODE 1853	USED FOR NODES	3148
NODE 1852	USED FOR NODES	3149
NODE 1851	USED FOR NODES	3150
NODE 1850	USED FOR NODES	3151
NODE 1849	USED FOR NODES	3152

*** WARNING *** CP= 10.060 TIME= 10:01:59
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 10.310 TIME= 10:02:00
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.320 TIME= 10:02:00
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.330 TIME= 10:02:00
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 10.330 TIME= 10:02:00

Keypoints 21 and 163 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

KEYPOINT	34 USED FOR KEYPOINT(S)	131	138	161
KEYPOINT	37 USED FOR KEYPOINT(S)	146	155	168
KEYPOINT	38 USED FOR KEYPOINT(S)	72		
KEYPOINT	39 USED FOR KEYPOINT(S)	88		
KEYPOINT	40 USED FOR KEYPOINT(S)	73		
KEYPOINT	41 USED FOR KEYPOINT(S)	89		
KEYPOINT	42 USED FOR KEYPOINT(S)	80		
KEYPOINT	43 USED FOR KEYPOINT(S)	128		
KEYPOINT	44 USED FOR KEYPOINT(S)	81	121	
KEYPOINT	45 USED FOR KEYPOINT(S)	130	160	
KEYPOINT	46 USED FOR KEYPOINT(S)	123		
KEYPOINT	47 USED FOR KEYPOINT(S)	162		
KEYPOINT	48 USED FOR KEYPOINT(S)	74		
KEYPOINT	49 USED FOR KEYPOINT(S)	99		
KEYPOINT	50 USED FOR KEYPOINT(S)	75		
KEYPOINT	51 USED FOR KEYPOINT(S)	98		
KEYPOINT	52 USED FOR KEYPOINT(S)	82		
KEYPOINT	53 USED FOR KEYPOINT(S)	145		
KEYPOINT	54 USED FOR KEYPOINT(S)	83	120	
KEYPOINT	55 USED FOR KEYPOINT(S)	147	169	
KEYPOINT	56 USED FOR KEYPOINT(S)	122		
KEYPOINT	57 USED FOR KEYPOINT(S)	171		
KEYPOINT	58 USED FOR KEYPOINT(S)	106		
KEYPOINT	59 USED FOR KEYPOINT(S)	137		
KEYPOINT	60 USED FOR KEYPOINT(S)	90	105	
KEYPOINT	61 USED FOR KEYPOINT(S)	129	136	
KEYPOINT	62 USED FOR KEYPOINT(S)	97	114	
KEYPOINT	63 USED FOR KEYPOINT(S)	144	153	
KEYPOINT	64 USED FOR KEYPOINT(S)	113		
KEYPOINT	65 USED FOR KEYPOINT(S)	152		
KEYPOINT	66 USED FOR KEYPOINT(S)	107		
KEYPOINT	67 USED FOR KEYPOINT(S)	112		
KEYPOINT	91 USED FOR KEYPOINT(S)	104		
KEYPOINT	96 USED FOR KEYPOINT(S)	115		
LINE	61 USED FOR LINE(S)	128		

*** WARNING *** CP= 10.510 TIME= 10:02:00
Due to merge, line 61 is now meshed.
LINE 62 USED FOR LINE(S) 108

*** WARNING *** CP= 10.520 TIME= 10:02:00
Due to merge, line 62 is now meshed.
LINE 63 USED FOR LINE(S) 186

*** WARNING *** CP= 10.520 TIME= 10:02:00
Due to merge, line 63 is now meshed.
LINE 64 USED FOR LINE(S) 118

*** WARNING *** CP= 10.520 TIME= 10:02:00
Due to merge, line 64 is now meshed.
LINE 65 USED FOR LINE(S) 234

*** WARNING *** CP= 10.520 TIME= 10:02:00
Due to merge, line 65 is now meshed.
LINE 66 USED FOR LINE(S) 178

*** WARNING *** CP= 10.530 TIME= 10:02:00
Due to merge, line 66 is now meshed.
LINE 69 USED FOR LINE(S) 105

*** WARNING *** CP= 10.530 TIME= 10:02:00
Due to merge, line 69 is now meshed.
LINE 70 USED FOR LINE(S) 144

*** WARNING *** CP= 10.530 TIME= 10:02:00
Due to merge, line 70 is now meshed.

LINE 71 USED FOR LINE(S) 115		
*** WARNING ***	CP=	10.530 TIME= 10:02:00
Due to merge, line 71 is now meshed.		
LINE 72 USED FOR LINE(S) 214		
*** WARNING ***	CP=	10.540 TIME= 10:02:00
Due to merge, line 72 is now meshed.		
LINE 73 USED FOR LINE(S) 174		
*** WARNING ***	CP=	10.540 TIME= 10:02:00
Due to merge, line 73 is now meshed.		
LINE 74 USED FOR LINE(S) 250		
*** WARNING ***	CP=	10.540 TIME= 10:02:00
Due to merge, line 74 is now meshed.		
LINE 79 USED FOR LINE(S) 152		
*** WARNING ***	CP=	10.540 TIME= 10:02:00
Due to merge, line 79 is now meshed.		
LINE 80 USED FOR LINE(S) 195		
*** WARNING ***	CP=	10.540 TIME= 10:02:00
Due to merge, line 80 is now meshed.		
LINE 81 USED FOR LINE(S) 130		
*** WARNING ***	CP=	10.550 TIME= 10:02:00
Due to merge, line 81 is now meshed.		
LINE 82 USED FOR LINE(S) 183		
*** WARNING ***	CP=	10.550 TIME= 10:02:00
Due to merge, line 82 is now meshed.		
LINE 83 USED FOR LINE(S) 110		
*** WARNING ***	CP=	10.550 TIME= 10:02:00
Due to merge, line 83 is now meshed.		
LINE 84 USED FOR LINE(S) 119		
*** WARNING ***	CP=	10.550 TIME= 10:02:00
Due to merge, line 84 is now meshed.		
LINE 85 USED FOR LINE(S) 141		
*** WARNING ***	CP=	10.560 TIME= 10:02:00
Due to merge, line 85 is now meshed.		
LINE 86 USED FOR LINE(S) 207		
*** WARNING ***	CP=	10.560 TIME= 10:02:00
Due to merge, line 86 is now meshed.		
LINE 87 USED FOR LINE(S) 163		
*** WARNING ***	CP=	10.560 TIME= 10:02:00
Due to merge, line 87 is now meshed.		
LINE 88 USED FOR LINE(S) 219		
*** WARNING ***	CP=	10.560 TIME= 10:02:00
Due to merge, line 88 is now meshed.		
LINE 92 USED FOR LINE(S) 155		
*** WARNING ***	CP=	10.570 TIME= 10:02:00
Due to merge, line 92 is now meshed.		
LINE 95 USED FOR LINE(S) 176		
*** WARNING ***	CP=	10.570 TIME= 10:02:00
Due to merge, line 95 is now meshed.		
LINE 98 USED FOR LINE(S) 161		
*** WARNING ***	CP=	10.570 TIME= 10:02:00
Due to merge, line 98 is now meshed.		
LINE 122 USED FOR LINE(S) 171		
LINE 133 USED FOR LINE(S) 150		

LINE 139 USED FOR LINE(S) 166
 LINE 188 USED FOR LINE(S) 231
 LINE 190 USED FOR LINE(S) 198
 LINE 210 USED FOR LINE(S) 226
 LINE 212 USED FOR LINE(S) 243

Create mesh in tube guides, thermal shunts
 Set mesh size for gaps.....

DEFAULT ELEMENT DIVISIONS PER LINE = 2

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 41 TO 60 STEP 1

20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 14 TO 20 STEP 2

24 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 23 TO 29 STEP 2

28 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES
 TO NDIV = 2, SPACING RATIO = 1.000

SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 61 TO 62 STEP 1

2 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 69 TO 70 STEP 1

4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 91 TO 92 STEP 1

6 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 98 TO 99 STEP 1

8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 21 TO 22 STEP 1

10 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 77 TO 78 STEP 1

12 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 89 TO 90 STEP 1

14 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
 IN RANGE 67 TO 68 STEP 1

16 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 75 TO 76 STEP 1
18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 13 STEP 1
19 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 30 TO 30 STEP 1
20 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 7, SPACING RATIO = 1.000
*** WARNING *** CP= 10.690 TIME= 10:02:00
Some lines in the currently selected set were meshed and could not be altered.
SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 63 TO 66 STEP 1
4 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 71 TO 74 STEP 1
8 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 79 TO 88 STEP 1
18 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 33 TO 40 STEP 1
26 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 93 TO 97 STEP 1
31 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 15 TO 19 STEP 2
34 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 24 TO 28 STEP 2
37 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.
SET DIVISIONS ON ALL SELECTED UNMESHED LINES
TO NDIV = 14, SPACING RATIO = 1.000
*** WARNING *** CP= 10.720 TIME= 10:02:00
Some lines in the currently selected set were meshed and could not be altered.
MESH CORNER GUIDES
FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.
DEFAULT ELEMENT DIVISIONS PER LINE = 1
MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 7 TO 10 IN STEPS OF 1

NUMBER OF AREAS MESHED = 4
MAXIMUM NODE NUMBER = 3758
MAXIMUM ELEMENT NUMBER = 3346
MESH THERMAL SHUNTS

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
PRODUCE ALL QUADRILATERAL OR BRICK ELEMENTS.

DEFAULT ELEMENT DIVISIONS PER LINE = 1

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 11 TO 27 IN STEPS OF 1

*** WARNING *** CP= 11.180 TIME= 10:02:01
Meshing of area 13 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.180 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3365 3378 3379 3392

*** WARNING *** CP= 11.230 TIME= 10:02:01
Meshing of area 14 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.230 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3393 3406 3407 3420

*** WARNING *** CP= 11.340 TIME= 10:02:01
Meshing of area 18 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.350 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3453 3454 3479 3480

*** WARNING *** CP= 11.390 TIME= 10:02:01
Meshing of area 19 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.390 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3481 3482 3507 3508

*** WARNING *** CP= 11.500 TIME= 10:02:01
Meshing of area 22 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.500 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3537 3550 3551 3564

*** WARNING *** CP= 11.540 TIME= 10:02:01
Meshing of area 23 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.540 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3565 3578 3579 3592

*** WARNING *** CP= 11.580 TIME= 10:02:01
Meshing of area 24 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.580 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3593 3606 3607 3620

*** WARNING *** CP= 11.620 TIME= 10:02:01
Meshing of area 25 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.620 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3621 3634 3635 3648

*** WARNING *** CP= 11.660 TIME= 10:02:01
Meshing of area 26 produced 4 poorly shaped elements.

*** NOTE *** CP= 11.660 TIME= 10:02:01
Worst aspect ratio is 43.3642857 : 1.

*** LIST OF ELEMENTS WITH POOR SHAPE ***
3649 3662 3663 3676

NUMBER OF AREAS MESHED = 17
MAXIMUM NODE NUMBER = 3991
MAXIMUM ELEMENT NUMBER = 3690

Create mesh in UCF inner shell
(L's 105,108)

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 13 TO 21 STEP 1

9 LINES (OF 218 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 105 KP1= 15 KP2= 24

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 22 TO 30 STEP 1

9 LINES (OF 219 DEFINED) SELECTED BY LSEL COMMAND.

CONCATENATE LINES
LINE LIST = ALL SELECTED LINES

COMPOSITE LINE NO.= 108 KP1= 24 KP2= 33

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 8 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 9 (IF SELECTED AND UNMESHED)
TO NDIV = 64, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 12 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 31 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 3 TO 4 IN STEPS OF 1

*** WARNING *** CP= 12.480 TIME= 10:02:02
Meshing of area 3 produced 62 poorly shaped elements.

*** NOTE *** CP= 12.480 TIME= 10:02:02
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3718	3719	3720	3721	3722	3723	3724	3725	3726	3727
3728	3729	3730	3731	3732	3733	3734	3735	3738	3763
3764	3765	3766	3767	3768	3769	3770	3771	3772	3773
3774	3799	3800	3801	3802	3803	3804	3805	3806	3807
3808	3809	3810	3837	3838	3839	3840	3841	3842	3843
3844	3845	3846	3847	3848	3849	3850	3851	3852	3853
3854	3855								

*** WARNING *** CP= 13.190 TIME= 10:02:03
Meshing of area 4 produced 62 poorly shaped elements.

*** NOTE *** CP= 13.190 TIME= 10:02:03
Worst shape angle is 29 degrees.

*** LIST OF ELEMENTS WITH POOR SHAPE ***

3910	3911	3912	3913	3914	3915	3916	3917	3918	3919
3920	3921	3922	3923	3924	3925	3926	3927	3930	3955
3956	3957	3958	3959	3960	3961	3962	3963	3964	3965
3966	3991	3992	3993	3994	3995	3996	3997	3998	3999
4000	4001	4002	4029	4030	4031	4032	4033	4034	4035
4036	4037	4038	4039	4040	4041	4042	4043	4044	4045
4046	4047								

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4483
MAXIMUM ELEMENT NUMBER = 4074

Delete concatenated lines
(L's freed up 105,108)
LDELE,105,108,1, LEAVE THEM FOR NOW, WHO CARES

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON ALL SELECTED UNMESHED LINES

TO NDIV = 64, SPACING RATIO = 1.000

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SET DIVISIONS ON LINE 5 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 10 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

SET DIVISIONS ON LINE 11 (IF SELECTED AND UNMESHED)
TO NDIV = 3, SPACING RATIO = 1.000

MATERIAL NUMBER SET TO 3

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
IN AREAS 1 TO 2 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
MAXIMUM NODE NUMBER = 4870
MAXIMUM ELEMENT NUMBER = 4458

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2185	USED FOR NODES	3588
NODE 2831	USED FOR NODES	3717
NODE 2198	USED FOR NODES	3590
NODE 2864	USED FOR NODES	3741
NODE 2186	USED FOR NODES	3602
NODE 2867	USED FOR NODES	3738
NODE 2188	USED FOR NODES	3600
NODE 2872	USED FOR NODES	3733
NODE 2189	USED FOR NODES	3599
NODE 2190	USED FOR NODES	3598
NODE 2191	USED FOR NODES	3597
NODE 2192	USED FOR NODES	3596
NODE 2193	USED FOR NODES	3595
NODE 2194	USED FOR NODES	3594
NODE 2196	USED FOR NODES	3592
NODE 2863	USED FOR NODES	3742
NODE 2197	USED FOR NODES	3591
NODE 2195	USED FOR NODES	3593
NODE 2861	USED FOR NODES	3744
NODE 2866	USED FOR NODES	3739
NODE 2860	USED FOR NODES	3745
NODE 2870	USED FOR NODES	3735
NODE 2862	USED FOR NODES	3743
NODE 2868	USED FOR NODES	3737
NODE 2869	USED FOR NODES	3736
NODE 2865	USED FOR NODES	3740
NODE 2187	USED FOR NODES	3601
NODE 2871	USED FOR NODES	3734
NODE 3224	USED FOR NODES	3659
NODE 3518	USED FOR NODES	3676
NODE 3225	USED FOR NODES	3658
NODE 3517	USED FOR NODES	3677
NODE 3226	USED FOR NODES	3657
NODE 3516	USED FOR NODES	3678
NODE 3227	USED FOR NODES	3656
NODE 3515	USED FOR NODES	3679
NODE 3228	USED FOR NODES	3655
NODE 3514	USED FOR NODES	3680
NODE 3229	USED FOR NODES	3654
NODE 3513	USED FOR NODES	3681
NODE 3230	USED FOR NODES	3653
NODE 3512	USED FOR NODES	3682

NODE 3231 USED FOR NODES 3652
 NODE 3511 USED FOR NODES 3683
 NODE 3232 USED FOR NODES 3651
 NODE 3510 USED FOR NODES 3684
 NODE 3509 USED FOR NODES 3685
 NODE 3233 USED FOR NODES 3650
 NODE 3234 USED FOR NODES 3649
 NODE 3508 USED FOR NODES 3686
 NODE 3235 USED FOR NODES 3648
 NODE 3507 USED FOR NODES 3687
 NODE 3506 USED FOR NODES 3688
 NODE 3236 USED FOR NODES 3647
 NODE 3505 USED FOR NODES 3674
 NODE 3196 USED FOR NODES 3631

*** WARNING *** CP= 16.530 TIME= 10:02:06
 Same node numbers associated with more than one solid model entity.
 Future mesh clearing operations could produce unexpected results.
 NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 16.780 TIME= 10:02:06
 Keypoints 18 and 139 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 16.780 TIME= 10:02:06
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 16.790 TIME= 10:02:06
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

*** WARNING *** CP= 16.790 TIME= 10:02:06
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the
 tolerance (2.335E-06).

Create mesh in empty basket spaces

DEFAULT ELEMENT DIVISIONS PER LINE BASED ON ELEMENT SIZE = .100

FOR ELEMENT TYPE(S) ALLOWING MULTIPLE SHAPES:
 PRODUCE MIXED ELEMENT SHAPES. (MAY PRODUCE ALL QUADRILATERAL
 OR ALL BRICK ELEMENTS UNDER CERTAIN CONDITIONS.)

MATERIAL NUMBER SET TO 7

ELEMENT TYPE SET TO 1

GENERATE NODES AND ELEMENTS
 IN AREAS 5 TO 6 IN STEPS OF 1

NUMBER OF AREAS MESHED = 2
 MAXIMUM NODE NUMBER = 5124
 MAXIMUM ELEMENT NUMBER = 4752

GENERATE NODES AND ELEMENTS
 IN AREAS 28 TO 34 IN STEPS OF 1
 ** AREA 29 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 30 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **
 ** AREA 31 MESHED WITH 110 QUADRILATERALS, 8 TRIANGLES **

** AREA 32 MESHED WITH 55 QUADRILATERALS, 17 TRIANGLES **
** AREA 33 MESHED WITH 53 QUADRILATERALS, 17 TRIANGLES **

NUMBER OF AREAS MESHED = 7
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5252

MERGE COINCIDENT NODES WITHIN TOLERANCE OF .10000E-03

NODE 2213 USED FOR NODES 5167
NODE 2844 USED FOR NODES 5451
NODE 2214 USED FOR NODES 5168
NODE 2843 USED FOR NODES 5450
NODE 2215 USED FOR NODES 5169
NODE 2842 USED FOR NODES 5449
NODE 2216 USED FOR NODES 5170
NODE 2841 USED FOR NODES 5448
NODE 2217 USED FOR NODES 5171
NODE 2840 USED FOR NODES 5447
NODE 2218 USED FOR NODES 5172
NODE 2839 USED FOR NODES 5446
NODE 2219 USED FOR NODES 5173
NODE 2838 USED FOR NODES 5445
NODE 2220 USED FOR NODES 5174
NODE 2837 USED FOR NODES 5444
NODE 2221 USED FOR NODES 5175
NODE 2836 USED FOR NODES 5443
NODE 2222 USED FOR NODES 5176
NODE 2835 USED FOR NODES 5442
NODE 2223 USED FOR NODES 5177
NODE 2834 USED FOR NODES 5441
NODE 2224 USED FOR NODES 5178
NODE 2833 USED FOR NODES 5440
NODE 2225 USED FOR NODES 5179
NODE 2832 USED FOR NODES 5439
NODE 3536 USED FOR NODES 5381
NODE 3541 USED FOR NODES 5386
NODE 3197 USED FOR NODES 5227
NODE 3537 USED FOR NODES 5382
NODE 3199 USED FOR NODES 5229
NODE 3200 USED FOR NODES 5230
NODE 3201 USED FOR NODES 5231
NODE 3202 USED FOR NODES 5232
NODE 3203 USED FOR NODES 5233
NODE 3204 USED FOR NODES 5234
NODE 3205 USED FOR NODES 5235
NODE 3540 USED FOR NODES 5385
NODE 3207 USED FOR NODES 5237
NODE 3534 USED FOR NODES 5379
NODE 3208 USED FOR NODES 5238
NODE 3542 USED FOR NODES 5387
NODE 3209 USED FOR NODES 5239
NODE 3538 USED FOR NODES 5383
NODE 3539 USED FOR NODES 5384
NODE 3546 USED FOR NODES 5391
NODE 3545 USED FOR NODES 5390
NODE 3544 USED FOR NODES 5389
NODE 3198 USED FOR NODES 5228
NODE 3535 USED FOR NODES 5380
NODE 3206 USED FOR NODES 5236
NODE 3543 USED FOR NODES 5388

*** WARNING *** CP= 21.170 TIME= 10:02:11
Same node numbers associated with more than one solid model entity.
Future mesh clearing operations could produce unexpected results.
NUMMRG,KP could correct this problem.

MERGE COINCIDENT KEYPOINTS WITHIN TOLERANCE OF .10000E-03

*** WARNING *** CP= 21.450 TIME= 10:02:11
Keypoints 18 and 139 cannot be merged because:

- (1) One or both of them belong to lines.
- (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 21.450 TIME= 10:02:11
 Keypoints 30 and 154 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 21.460 TIME= 10:02:11
 Keypoints 27 and 170 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

*** WARNING *** CP= 21.460 TIME= 10:02:11
 Keypoints 21 and 163 cannot be merged because:
 (1) One or both of them belong to lines.
 (2) The distance between them (9.368347144E-06) exceeds the tolerance (2.335E-06).

Create radiation surface elements
 Basket spaces

MATERIAL NUMBER SET TO 2

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 13 TO 21 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5308

GENERATE NODES AND ELEMENTS
 ON LINES 22 TO 30 IN STEPS OF 2

NUMBER OF LINES MESHED = 5
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5364

GENERATE NODES AND ELEMENTS
 ON LINES 33 TO 34 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5392

GENERATE NODES AND ELEMENTS
 ON LINES 37 TO 38 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5420

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
 ON LINES 92 TO 98 IN STEPS OF 1

NUMBER OF LINES MESHED = 7
 MAXIMUM NODE NUMBER = 5538
 MAXIMUM ELEMENT NUMBER = 5504

MATERIAL NUMBER SET TO 1

ELEMENT TYPE SET TO 17

GENERATE NODES AND ELEMENTS
ON LINES 67 TO 68 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5518

GENERATE NODES AND ELEMENTS
ON LINES 75 TO 78 IN STEPS OF 1

NUMBER OF LINES MESHED = 4
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5546

GENERATE NODES AND ELEMENTS
ON LINES 89 TO 90 IN STEPS OF 1

NUMBER OF LINES MESHED = 2
MAXIMUM NODE NUMBER = 5538
MAXIMUM ELEMENT NUMBER = 5560

***** ROUTINE COMPLETED ***** CP = 21.690

Create element mesh plots to illustrate model
View mesh for entire model

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (CENTROIDAL SORT) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS 0 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

/SHOW SWITCH PLOTS TO FILE meshfull.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshfull.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - 1/2 FEM Model

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4766 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

/SHOW SWITCH PLOTS TO FILE meshgap.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshgap.grph - VECTOR MODE.
DISPLAY TITLE=

21 PWR UCF/Waste Package - 1/2 FEM Model
View mesh for radiation substructure

MAT NUMBERING KEY = 0

TYPE NUMBERING KEY = 1

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

/SHOW SWITCH PLOTS TO FILE meshrad.grph - VECTOR MODE.
- GRAPHIC PLANES = 8.

PRODUCE ELEMENT PLOT IN DSYS = 0

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE meshrad.grph - VECTOR MODE.
DISPLAY TITLE=
21 PWR UCF/Waste Package - Radiation Matrix

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

TITLE=
21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

Generate super-elements

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:02:16 JUN 12, 1995 CP= 26.490
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RADIATION MATRIX UTILITY (AUX12) *****

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

308 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

SELECT ALL NODES HAVING ANY ELEMENT IN ELEMENT SET.

310 NODES (OF 5339 DEFINED) SELECTED FROM
308 SELECTED ELEMENTS BY NSLE COMMAND.

STEFAN-BOLTZMANN CONSTANT= .56700E-07

TWO DIMENSIONAL PLANE GEOMETRY (UNIT THICKNESS)

HIDDEN SURFACE (SLOW) METHOD
NUMBER OF ZONES= 800

WRITE RADIATION MATRIX TO FILE= spaces.sub

*** WARNING *** CP= 26.700 TIME= 10:02:17
No space node defined. An enclosed system need not have a space node.
For an open system a space node is required to account for radiation

losses.

NUMBER OF ELEMENTS= 308 NUMBER OF NODES= 310

800 ZONES CREATE 1600 RAYS

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5560 STEP 1

5560 ELEMENTS (OF 5560 DEFINED) SELECTED BY ESEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 38.590

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:02:29 JUN 12, 1995 CP= 38.590
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS ANALYSIS DEFINITION (PREP7) *****

ELEMENT TYPE SET TO 18

SUPERELEMENT 5561 spaces NODE TOLERANCE = .10000E-03

STORE DOFS OF SUPERELEMENT 5561

CURRENT NODAL DOF SET IS TEMP
THREE-DIMENSIONAL MODEL

STORE NODES OF SUPERELEMENT 5561
Delete radiation edge elements

SELECT FOR ITEM=TYPE COMPONENT=
IN RANGE 17 TO 17 STEP 1

29 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

CLEAR NODES AND ELEMENTS FROM ALL SELECTED LINES

*** NOTE *** CP= 38.620 TIME= 10:02:30
Nodes cannot be cleared from line 13 because area 28 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.620 TIME= 10:02:30
Nodes cannot be cleared from line 15 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.630 TIME= 10:02:30
Nodes cannot be cleared from line 17 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.630 TIME= 10:02:30
Nodes cannot be cleared from line 19 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.640 TIME= 10:02:30
Nodes cannot be cleared from line 21 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.640 TIME= 10:02:30
Nodes cannot be cleared from line 22 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.640 TIME= 10:02:30
Nodes cannot be cleared from line 24 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.650 TIME= 10:02:30
Nodes cannot be cleared from line 26 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.650 TIME= 10:02:30
Nodes cannot be cleared from line 28 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.660 TIME= 10:02:30
Nodes cannot be cleared from line 30 because area 34 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.660 TIME= 10:02:30
Nodes cannot be cleared from line 33 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.670 TIME= 10:02:30
Nodes cannot be cleared from line 34 because area 5 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.670 TIME= 10:02:30
Nodes cannot be cleared from line 37 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.670 TIME= 10:02:30
Nodes cannot be cleared from line 38 because area 6 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.680 TIME= 10:02:30
Nodes cannot be cleared from line 67 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.680 TIME= 10:02:30
Nodes cannot be cleared from line 68 because area 15 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.690 TIME= 10:02:30
Nodes cannot be cleared from line 75 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.690 TIME= 10:02:30
Nodes cannot be cleared from line 76 because area 20 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.690 TIME= 10:02:30
Nodes cannot be cleared from line 77 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.690 TIME= 10:02:30
Nodes cannot be cleared from line 78 because area 21 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.700 TIME= 10:02:30
Nodes cannot be cleared from line 89 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.700 TIME= 10:02:30
Nodes cannot be cleared from line 90 because area 27 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.700 TIME= 10:02:30
Nodes cannot be cleared from line 92 because area 28 is meshed. Only

elements are deleted.

*** NOTE *** CP= 38.710 TIME= 10:02:30
Nodes cannot be cleared from line 93 because area 29 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.710 TIME= 10:02:30
Nodes cannot be cleared from line 94 because area 30 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.720 TIME= 10:02:30
Nodes cannot be cleared from line 95 because area 31 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.720 TIME= 10:02:30
Nodes cannot be cleared from line 96 because area 32 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.720 TIME= 10:02:30
Nodes cannot be cleared from line 97 because area 33 is meshed. Only
elements are deleted.

*** NOTE *** CP= 38.730 TIME= 10:02:30
Nodes cannot be cleared from line 98 because area 34 is meshed. Only
elements are deleted.

CLEARED 29 LINES, 0 KEYPOINTS

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

***** ROUTINE COMPLETED ***** CP = 38.740

Set solution parameters and apply B.C.'s

Solve steady-state for initial conditions
with WP surface equal to drift ambient
temperature from repository model.

***** ANSYS SOLUTION ROUTINE *****

PERFORM A TRANSIENT ANALYSIS
THIS WILL BE A NEW ANALYSIS

USE THE DEFAULT NEWTON-RAPHSON OPTION FOR ALL DOFS
AND USE THE DEFAULT ADAPTIVE DESCENT OPTION

*** NOTE *** CP= 38.740 TIME= 10:02:30
Damping (if present) may be ignored only in reduced transient analyses.

PERFORM A FULL TRANSIENT ANALYSIS

TEMPERATURE OFFSET FROM ABSOLUTE ZERO= 273.150

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1

1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1

2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES 1 TO 5538 BY 1
REAL= 26.1379438 IMAG= .000000000E+00

ALL SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .10000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

*** NOTE *** CP= 39.900 TIME= 10:02:32
All shape tests were bypassed for elements associated with the solid
model, because most of them were already done at AMESH or VMESH. Use
CHECK if desired to perform all of the element tests.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 10:02:32 JUN 12, 1995 CP= 39.900
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

SOLUTION OPTIONS

PROBLEM DIMENSIONALITY. 3-D
DEGREES OF FREEDOM. TEMP

ANALYSIS TYPETRANSIENT
 SOLUTION METHOD.FULL
 OFFSET TEMPERATURE FROM ABSOLUTE ZERO 273.15
 NEWTON-RAPHSON OPTIONPROGRAM CHOSEN

*** NOTE *** CP= 40.760 TIME= 10:02:33
 This load step will be a static (steady-state) step.

*** NOTE *** CP= 41.170 TIME= 10:02:33
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

LOAD STEP OPTIONS

LOAD STEP NUMBER.1
 TIME AT END OF THE LOAD STEP.10000E-05
 AUTOMATIC TIME STEPPINGON
 INITIAL NUMBER OF SUBSTEPS0
 MAXIMUM NUMBER OF SUBSTEPS0
 MINIMUM NUMBER OF SUBSTEPS1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONSNO
 TRANSIENT (INERTIA) EFFECTSOFF
 TERMINATE ANALYSIS IF NOT CONVERGED YES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

***** CENTROID, MASS, AND MASS MOMENTS OF INERTIA *****

CALCULATIONS ASSUME ELEMENT MASS AT ELEMENT CENTROID

TOTAL MASS = 5375.9

CENTROID	MOM. OF INERTIA ABOUT ORIGIN	MOM. OF INERTIA ABOUT CENTROID
XC = .35650	IXX = 955.5	IXX = 955.5
YC = .10103E-10	IYY = 955.7	IYY = 272.4
ZC = .00000E+00	IZZ = 1911.	IZZ = 1228.
	IXY = -.1213E-07	IXY = .7229E-08
	IYZ = .0000E+00	IYZ = .0000E+00
	IZX = .0000E+00	IZX = .0000E+00

*** MASS SUMMARY BY ELEMENT TYPE ***

TYPE MASS
 1 5375.85

Range of element maximum matrix coefficients in global coordinates
 Maximum= 192.784441 at element 3393.
 Minimum= 1.261859514E-09 at element 5561.

*** WARNING *** CP= 57.490 TIME= 10:02:51
 Coefficient ratio exceeds 1.0e8 - Check results.

*** ELEMENT MATRIX FORMULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	10.590	.002
18	1	MATRIX50	.120	.120

Time at end of element matrix formulation CP= 57.49.
 HT FLOW CONVERGENCE VALUE= 7082. CRITERION= 7.082

Estimated number of active DOF= 5210.
Maximum wavefront= 384.

Time at end of matrix triangularization CP= 80.01.
Equation solver maximum pivot= 410.640446 at node 3957 TEMP.
Equation solver minimum pivot= 0.172685665 at node 5125 TEMP.
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 437.1
HT FLOW CONVERGENCE VALUE= 246.8 CRITERION= .2856
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -148.6
HT FLOW CONVERGENCE VALUE= 35.82 CRITERION= .3121
EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 21.67
HT FLOW CONVERGENCE VALUE= 3.870 CRITERION= .2844
EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.403
HT FLOW CONVERGENCE VALUE= .2545 CRITERION= .2831 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 4

*** ELEMENT RESULT CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	6.040	.001
18	1	MATRIX50	.130	.130

*** NODAL LOAD CALCULATION TIMES

TYPE	NUMBER	ENAME	TOTAL CP	AVE CP
1	5252	PLANE55	1.180	.000
18	1	MATRIX50	.000	.000

*** LOAD STEP 1 SUBSTEP 1 COMPLETED. CUM ITER = 4
*** TIME = .100000E-05 TIME INC = .100000E-05

*** PROBLEM STATISTICS

ACTUAL NO. OF ACTIVE DEGREES OF FREEDOM = 5210
R.M.S. WAVEFRONT SIZE = 177.2

*** ANSYS BINARY FILE STATISTICS

BUFFER SIZE USED= 4096
2.594 MB WRITTEN ON ELEMENT MATRIX FILE: ucf21ss.emat
2.359 MB WRITTEN ON ELEMENT SAVED DATA FILE: ucf21ss.esav
6.969 MB WRITTEN ON TRIANGULARIZED MATRIX FILE: ucf21ss.tri
.016 MB WRITTEN ON SUBSTRUCTURE DOF SOLUTION FILE: ucf21ss.dsub
2.859 MB WRITTEN ON RESULTS FILE: ucf21ss.rth
Solve steady-state for initial conditions
with WP surface temperatures from repository
steady-state solution.

SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 6 TO 6 STEP 1
1 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALSO SELECT FOR ITEM=LINE COMPONENT=
IN RANGE 7 TO 7 STEP 1
2 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

SELECT ALL NODES (INTERIOR TO LINE, AND AT KEYPOINTS)
RELATED TO SELECTED LINE SET.

129 NODES (OF 5339 DEFINED) SELECTED FROM
2 SELECTED LINES BY NSLL COMMAND.

DELETE SPECIFIED CONSTRAINT TEMP FOR SELECTED NODES
RANGE 1 TO 5538 BY 1

NUMBER OF SPECIFIED CONSTRAINTS DELETED= 129

ALL SELECT FOR ITEM=LINE COMPONENT=

IN RANGE 1 TO 250 STEP 1

220 LINES (OF 220 DEFINED) SELECTED BY LSEL COMMAND.

ALL SELECT FOR ITEM=NODE COMPONENT=
IN RANGE 1 TO 5538 STEP 1

5339 NODES (OF 5339 DEFINED) SELECTED BY NSEL COMMAND.

CONSTRAINT AT KEYPOINT 11
LOAD LABELS = TEMP
VALUES = 69.138 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES = 69.192 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES = 69.254 .00000E+00 EXPANSION KEY = 1

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

DO NOT INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

TIME= .20000E-05

USE AUTOMATIC TIME STEPPING THIS LOAD STEP

STEP BOUNDARY CONDITION KEY= 0

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** WARNING *** CP= 214.250 TIME= 10:05:31
This load step will be a static (steady-state) step.

*** NOTE *** CP= 214.640 TIME= 10:05:32
The step data was checked and warning messages were found.
Please review output or errors file (ucf21ss.err) for these warning
messages.

*** NOTE *** CP= 214.650 TIME= 10:05:32
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:05:32 JUN 12, 1995 CP= 214.650
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 2
 TIME AT END OF THE LOAD STEP.20000E-05
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 0
 MAXIMUM NUMBER OF SUBSTEPS 0
 MINIMUM NUMBER OF SUBSTEPS 1
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS OFF
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .1171E+05 CRITERION= 11.72
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 43.36
 HT FLOW CONVERGENCE VALUE= 39.31 CRITERION= .2922
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -19.86
 HT FLOW CONVERGENCE VALUE= 6.819 CRITERION= .2870
 EQUIL ITER 3 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 4.448
 HT FLOW CONVERGENCE VALUE= .7803 CRITERION= .2828
 EQUIL ITER 4 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6376
 HT FLOW CONVERGENCE VALUE= .7955E-01 CRITERION= .2828 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 4
 *** LOAD STEP 2 SUBSTEP 1 COMPLETED. CUM ITER = 8
 *** TIME = .200000E-05 TIME INC = .100000E-05

Set time integration parameters

INCLUDE TRANSIENT EFFECTS FOR ALL DOFS THIS LOAD STEP

USE AUTOMATIC TIME STEPPING THIS LOAD STEP
 Time substep ranges from 10 sec to 1/4 loadstep

USE 10 SUBSTEPS INITIALLY THIS LOAD STEP FOR ALL DOFS
 FOR AUTOMATIC TIME STEPPING:
 USE 40 SUBSTEPS AS A MAXIMUM
 USE 5 SUBSTEPS AS A MINIMUM
 USE THE FINAL TIME STEP SIZE OF THE PREVIOUS LOAD STEP
 AS THE STARTING TIME STEP SIZE.
 Begin Transient
 Apply loads and solve for 0 to .9 years

*DO LOOP ON PARAMETER= TM FROM 31.558 TO .28402E+08 BY .31558E+07

TIME= 31.558

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5905.66823 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

LOAD LABELS = TEMP

VALUES = 69.138 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10

LOAD LABELS = TEMP

VALUES = 69.192 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9

LOAD LABELS = TEMP

VALUES = 69.254 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL

CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE ***

CP= 342.630 TIME= 10:07:41

Nonlinear analysis, WROPT set to 1 (full Newton-Raphson solution procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****

38303 VERSION=HP 9000/7XX 10:07:41 JUN 12, 1995 CP= 342.630
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 3
TIME AT END OF THE LOAD STEP. 31.558
AUTOMATIC TIME STEPPING ON
INITIAL NUMBER OF SUBSTEPS 10
MAXIMUM NUMBER OF SUBSTEPS 40
MINIMUM NUMBER OF SUBSTEPS 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. 25
STEP CHANGE BOUNDARY CONDITIONS NO
TRANSIENT (INERTIA) EFFECTS
THERMAL DOFS ON
TRANSIENT INTEGRATION PARAMETERS
THETA.50000
OSCILLATION LIMIT CRITERION.50000
TOLERANCE.20000
TERMINATE ANALYSIS IF NOT CONVERGED YES (EXIT)
CONVERGENCE CONTROLS. USE DEFAULTS
PRINT OUTPUT CONTROLS NO PRINTOUT
DATABASE OUTPUT CONTROLS. ALL DATA WRITTEN
FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= .7955E-01 CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7713E-04

HT FLOW CONVERGENCE VALUE= .3124E-05 CRITERION= .2828 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 3 SUBSTEP 1 COMPLETED. CUM ITER = 9

*** TIME = .788942 TIME INC = .788940

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*** RESPONSE EIGENVALUE = .2233      OSCILLATION LIMIT = .1762
*** AUTO STEP TIME: NEXT TIME INC = .78894      UNCHANGED

HT FLOW CONVERGENCE VALUE= .1471      CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1169E-03
HT FLOW CONVERGENCE VALUE= .4942E-05 CRITERION= .2828      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 2 COMPLETED. CUM ITER = 10
*** TIME = 1.57788      TIME INC = .788940
*** RESPONSE EIGENVALUE = .1519      OSCILLATION LIMIT = .1199
*** AUTO TIME STEP: NEXT TIME INC = 2.3668      INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= .1327      CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1756E-03
HT FLOW CONVERGENCE VALUE= .8721E-05 CRITERION= .2828      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 3 COMPLETED. CUM ITER = 11
*** TIME = 3.94470      TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .6064E-01 OSCILLATION LIMIT = .1435
*** AUTO TIME STEP: NEXT TIME INC = 6.3115      INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= .1192      CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1677E-03
HT FLOW CONVERGENCE VALUE= .1416E-04 CRITERION= .2828      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 4 COMPLETED. CUM ITER = 12
*** TIME = 10.2562      TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1519E-01 OSCILLATION LIMIT = .9586E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115      UNCHANGED

HT FLOW CONVERGENCE VALUE= .1149      CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6222E-04
HT FLOW CONVERGENCE VALUE= .1115E-04 CRITERION= .2828      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 5 COMPLETED. CUM ITER = 13
*** TIME = 16.5677      TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .3707E-02 OSCILLATION LIMIT = .2340E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115      UNCHANGED

HT FLOW CONVERGENCE VALUE= .1136      CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6214E-04
HT FLOW CONVERGENCE VALUE= .1047E-04 CRITERION= .2828      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 6 COMPLETED. CUM ITER = 14
*** TIME = 22.8793      TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .2372E-02 OSCILLATION LIMIT = .1497E-01
*** AUTO STEP TIME: NEXT TIME INC = 6.3115      UNCHANGED

HT FLOW CONVERGENCE VALUE= .1126      CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6206E-04
HT FLOW CONVERGENCE VALUE= .1011E-04 CRITERION= .2828      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 7 COMPLETED. CUM ITER = 15
*** TIME = 29.1908      TIME INC = 6.31152
*** RESPONSE EIGENVALUE = .1925E-02 OSCILLATION LIMIT = .1215E-01
*** AUTO TIME STEP: NEXT TIME INC = 2.3668      DECREASED (FACTOR = .3750)

HT FLOW CONVERGENCE VALUE= .1117      CRITERION= .2828
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2325E-04
HT FLOW CONVERGENCE VALUE= .3712E-05 CRITERION= .2828      <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 3 SUBSTEP 8 COMPLETED. CUM ITER = 16
*** TIME = 31.5576      TIME INC = 2.36682
*** RESPONSE EIGENVALUE = .1756E-02 OSCILLATION LIMIT = .4157E-02

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*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:14:45 JUN 12, 1995 CP= 759.100
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 204.9 CRITERION= .3493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7923
 HT FLOW CONVERGENCE VALUE= .5200 CRITERION= .2809
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1030
 HT FLOW CONVERGENCE VALUE= .5558E-01 CRITERION= .2809 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 1 COMPLETED. CUM ITER = 18
 *** TIME = 78925.6 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .6057E-05 OSCILLATION LIMIT = .4779
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 206.0 CRITERION= .3480
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7987
 HT FLOW CONVERGENCE VALUE= .6121 CRITERION= .2822
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1230
 HT FLOW CONVERGENCE VALUE= .5687E-01 CRITERION= .2823 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 2 COMPLETED. CUM ITER = 20
 *** TIME = 157820. TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .2343E-05 OSCILLATION LIMIT = .1849
 *** AUTO TIME STEP: NEXT TIME INC = .21339E+06 INCREASED (FACTOR = 2.7047)

HT FLOW CONVERGENCE VALUE= 554.5 CRITERION= .6223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.632 CRITERION= .2807
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4916
 HT FLOW CONVERGENCE VALUE= .2088 CRITERION= .2808 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 3 COMPLETED. CUM ITER = 22
 *** TIME = 371207. TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1922E-05 OSCILLATION LIMIT = .4101
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 555.9 CRITERION= .6223
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.667 CRITERION= .2820
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5032
 HT FLOW CONVERGENCE VALUE= .2111 CRITERION= .2821 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 4 COMPLETED. CUM ITER = 24
 *** TIME = 584594. TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1734E-05 OSCILLATION LIMIT = .3701
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 555.2 CRITERION= .6228
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.660 CRITERION= .2805
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5007
 HT FLOW CONVERGENCE VALUE= .2069 CRITERION= .2806 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 5 COMPLETED. CUM ITER = 26
 *** TIME = 797981. TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1680E-05 OSCILLATION LIMIT = .3585
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 556.5 CRITERION= .6228
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.698 CRITERION= .2818
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5044
 HT FLOW CONVERGENCE VALUE= .2093 CRITERION= .2819 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 6 COMPLETED. CUM ITER = 28
 *** TIME = .101137E+07 TIME INC = 213387.

*** RESPONSE EIGENVALUE = .1661E-05 OSCILLATION LIMIT = .3545
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 555.9 CRITERION= .6233
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.680 CRITERION= .2803
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4966
 HT FLOW CONVERGENCE VALUE= .2051 CRITERION= .2805 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 7 COMPLETED. CUM ITER = 30
 *** TIME = .122475E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1652E-05 OSCILLATION LIMIT = .3525
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 557.2 CRITERION= .6234
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.698 CRITERION= .2816
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4990
 HT FLOW CONVERGENCE VALUE= .2063 CRITERION= .2817 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 8 COMPLETED. CUM ITER = 32
 *** TIME = .143814E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1629E-05 OSCILLATION LIMIT = .3475
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 556.6 CRITERION= .6238
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.640 CRITERION= .2802
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4925
 HT FLOW CONVERGENCE VALUE= .2024 CRITERION= .2803 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 9 COMPLETED. CUM ITER = 34
 *** TIME = .165153E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1600E-05 OSCILLATION LIMIT = .3414
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 557.9 CRITERION= .6239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.625 CRITERION= .2814
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4955
 HT FLOW CONVERGENCE VALUE= .2040 CRITERION= .2815 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 10 COMPLETED. CUM ITER = 36
 *** TIME = .186492E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1595E-05 OSCILLATION LIMIT = .3403
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 557.2 CRITERION= .6243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.549 CRITERION= .2800
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4911
 HT FLOW CONVERGENCE VALUE= .2011 CRITERION= .2801 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 11 COMPLETED. CUM ITER = 38
 *** TIME = .207830E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1560E-05 OSCILLATION LIMIT = .3329
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 558.5 CRITERION= .6244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.441 CRITERION= .2812
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4943
 HT FLOW CONVERGENCE VALUE= .2036 CRITERION= .2813 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 4 SUBSTEP 12 COMPLETED. CUM ITER = 40
 *** TIME = .229169E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1569E-05 OSCILLATION LIMIT = .3348
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 557.9 CRITERION= .6248

EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.417 CRITERION= .2798
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4900
 HT FLOW CONVERGENCE VALUE= .2001 CRITERION= .2799 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 13 COMPLETED. CUM ITER = 42
 *** TIME = .250508E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1524E-05 OSCILLATION LIMIT = .3253
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 559.1 CRITERION= .6249
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.450 CRITERION= .2809
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4914
 HT FLOW CONVERGENCE VALUE= .2011 CRITERION= .2811 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 14 COMPLETED. CUM ITER = 44
 *** TIME = .271846E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1543E-05 OSCILLATION LIMIT = .3293
 *** AUTO STEP TIME: NEXT TIME INC = .21339E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 558.3 CRITERION= .6250
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 2.143
 HT FLOW CONVERGENCE VALUE= 1.430 CRITERION= .2795
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4864
 HT FLOW CONVERGENCE VALUE= .1975 CRITERION= .2798 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 15 COMPLETED. CUM ITER = 46
 *** TIME = .293185E+07 TIME INC = 213387.
 *** RESPONSE EIGENVALUE = .1481E-05 OSCILLATION LIMIT = .3160
 *** AUTO STEP TIME: NEXT TIME INC = .11197E+06 DECREASED (FACTOR = .5247)

HT FLOW CONVERGENCE VALUE= 293.9 CRITERION= .4054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.125
 HT FLOW CONVERGENCE VALUE= .7492 CRITERION= .2807
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1948
 HT FLOW CONVERGENCE VALUE= .8541E-01 CRITERION= .2809 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 16 COMPLETED. CUM ITER = 48
 *** TIME = .304382E+07 TIME INC = 111970.
 *** RESPONSE EIGENVALUE = .1456E-05 OSCILLATION LIMIT = .1631
 *** AUTO STEP TIME: NEXT TIME INC = .11197E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 293.0 CRITERION= .4059
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= 1.124
 HT FLOW CONVERGENCE VALUE= .7397 CRITERION= .2794
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1915
 HT FLOW CONVERGENCE VALUE= .8376E-01 CRITERION= .2796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 4 SUBSTEP 17 COMPLETED. CUM ITER = 50
 *** TIME = .315579E+07 TIME INC = 111970.
 *** RESPONSE EIGENVALUE = .1375E-05 OSCILLATION LIMIT = .1539

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 10:37:39 JUN 12, 1995 CP= 2078.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 68.35 CRITERION= .2878
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4677
 HT FLOW CONVERGENCE VALUE= .2504 CRITERION= .2822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 1 COMPLETED. CUM ITER = 51
 *** TIME = .326776E+07 TIME INC = 111970.
 *** RESPONSE EIGENVALUE = .3420E-05 OSCILLATION LIMIT = .3830

*** AUTO STEP TIME: NEXT TIME INC = .11197E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 66.62 CRITERION= .2901
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2408
 HT FLOW CONVERGENCE VALUE= .1490 CRITERION= .2800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 2 COMPLETED. CUM ITER = 52
 *** TIME = .337973E+07 TIME INC = 111970.
 *** RESPONSE EIGENVALUE = .5756E-05 OSCILLATION LIMIT = .6445
 *** AUTO STEP TIME: NEXT TIME INC = .11197E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 68.33 CRITERION= .2881
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2607
 HT FLOW CONVERGENCE VALUE= .1733 CRITERION= .2822 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 3 COMPLETED. CUM ITER = 53
 *** TIME = .349170E+07 TIME INC = 111970.
 *** RESPONSE EIGENVALUE = .7298E-05 OSCILLATION LIMIT = .8172
 *** AUTO TIME STEP: NEXT TIME INC = 78894. DECREASED (FACTOR = .7046)

HT FLOW CONVERGENCE VALUE= 46.74 CRITERION= .2861
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
 HT FLOW CONVERGENCE VALUE= .9441E-01 CRITERION= .2800 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 4 COMPLETED. CUM ITER = 54
 *** TIME = .357060E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1358E-04 OSCILLATION LIMIT = 1.072
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.42 CRITERION= .2840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1879
 HT FLOW CONVERGENCE VALUE= .1231 CRITERION= .2821 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 5 COMPLETED. CUM ITER = 55
 *** TIME = .364949E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .9878E-05 OSCILLATION LIMIT = .7793
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.77 CRITERION= .2860
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
 HT FLOW CONVERGENCE VALUE= .9959E-01 CRITERION= .2799 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 6 COMPLETED. CUM ITER = 56
 *** TIME = .372838E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .1029E-04 OSCILLATION LIMIT = .8116
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.40 CRITERION= .2840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1871
 HT FLOW CONVERGENCE VALUE= .1221 CRITERION= .2820 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 7 COMPLETED. CUM ITER = 57
 *** TIME = .380728E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8699E-05 OSCILLATION LIMIT = .6863
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.79 CRITERION= .2859
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
 HT FLOW CONVERGENCE VALUE= .1014 CRITERION= .2799 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 8 COMPLETED. CUM ITER = 58
 *** TIME = .388617E+07 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .8989E-05 OSCILLATION LIMIT = .7092
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.37 CRITERION= .2840
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1860
 HT FLOW CONVERGENCE VALUE= .1204 CRITERION= .2818 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 9 COMPLETED. CUM ITER = 59

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*** TIME = .396507E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8059E-05    OSCILLATION LIMIT = .6358
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 46.81    CRITERION= .2858
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
    HT FLOW CONVERGENCE VALUE= .1024    CRITERION= .2799    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 10 COMPLETED.    CUM ITER = 60
*** TIME = .404396E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .8081E-05    OSCILLATION LIMIT = .6375
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.35    CRITERION= .2840
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1851
    HT FLOW CONVERGENCE VALUE= .1194    CRITERION= .2817    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 11 COMPLETED.    CUM ITER = 61
*** TIME = .412285E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7457E-05    OSCILLATION LIMIT = .5883
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 46.83    CRITERION= .2857
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
    HT FLOW CONVERGENCE VALUE= .1033    CRITERION= .2799    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 12 COMPLETED.    CUM ITER = 62
*** TIME = .420175E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .7335E-05    OSCILLATION LIMIT = .5786
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.33    CRITERION= .2840
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1842
    HT FLOW CONVERGENCE VALUE= .1184    CRITERION= .2816    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 13 COMPLETED.    CUM ITER = 63
*** TIME = .428064E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6920E-05    OSCILLATION LIMIT = .5460
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 46.84    CRITERION= .2856
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
    HT FLOW CONVERGENCE VALUE= .1041    CRITERION= .2799    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 14 COMPLETED.    CUM ITER = 64
*** TIME = .435954E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6709E-05    OSCILLATION LIMIT = .5293
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.32    CRITERION= .2839
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1834
    HT FLOW CONVERGENCE VALUE= .1177    CRITERION= .2815    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 15 COMPLETED.    CUM ITER = 65
*** TIME = .443843E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6442E-05    OSCILLATION LIMIT = .5083
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 46.86    CRITERION= .2854
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
    HT FLOW CONVERGENCE VALUE= .1047    CRITERION= .2798    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 16 COMPLETED.    CUM ITER = 66
*** TIME = .451732E+07    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6174E-05    OSCILLATION LIMIT = .4871
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 48.30    CRITERION= .2839
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1826
    HT FLOW CONVERGENCE VALUE= .1171    CRITERION= .2814    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 17 COMPLETED. CUM ITER = 67
*** TIME = .459622E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .6018E-05 OSCILLATION LIMIT = .4748
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.88 CRITERION= .2853
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1053 CRITERION= .2798 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 18 COMPLETED. CUM ITER = 68
*** TIME = .467511E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5713E-05 OSCILLATION LIMIT = .4507
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.28 CRITERION= .2839
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1819
HT FLOW CONVERGENCE VALUE= .1163 CRITERION= .2813 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 19 COMPLETED. CUM ITER = 69
*** TIME = .475401E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5637E-05 OSCILLATION LIMIT = .4448
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.89 CRITERION= .2852
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1056 CRITERION= .2798 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 20 COMPLETED. CUM ITER = 70
*** TIME = .483290E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5309E-05 OSCILLATION LIMIT = .4189
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.26 CRITERION= .2838
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1812
HT FLOW CONVERGENCE VALUE= .1159 CRITERION= .2812 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 21 COMPLETED. CUM ITER = 71
*** TIME = .491179E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5295E-05 OSCILLATION LIMIT = .4178
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.91 CRITERION= .2852
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1060 CRITERION= .2797 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 22 COMPLETED. CUM ITER = 72
*** TIME = .499069E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4955E-05 OSCILLATION LIMIT = .3909
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.25 CRITERION= .2838
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1805
HT FLOW CONVERGENCE VALUE= .1154 CRITERION= .2811 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 23 COMPLETED. CUM ITER = 73
*** TIME = .506958E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4987E-05 OSCILLATION LIMIT = .3935
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.92 CRITERION= .2851
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1064 CRITERION= .2797 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 24 COMPLETED. CUM ITER = 74
*** TIME = .514848E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4641E-05 OSCILLATION LIMIT = .3662
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.23 CRITERION= .2838

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1799
HT FLOW CONVERGENCE VALUE= .1151 CRITERION= .2810 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 25 COMPLETED. CUM ITER = 75
*** TIME = .522737E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4710E-05 OSCILLATION LIMIT = .3716
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.94 CRITERION= .2850
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1068 CRITERION= .2797 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 26 COMPLETED. CUM ITER = 76
*** TIME = .530626E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4363E-05 OSCILLATION LIMIT = .3442
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.22 CRITERION= .2837
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1793
HT FLOW CONVERGENCE VALUE= .1147 CRITERION= .2809 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 27 COMPLETED. CUM ITER = 77
*** TIME = .538516E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4458E-05 OSCILLATION LIMIT = .3517
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.95 CRITERION= .2849
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1071 CRITERION= .2796 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 28 COMPLETED. CUM ITER = 78
*** TIME = .546405E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4114E-05 OSCILLATION LIMIT = .3245
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.21 CRITERION= .2837
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1788
HT FLOW CONVERGENCE VALUE= .1144 CRITERION= .2808 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 29 COMPLETED. CUM ITER = 79
*** TIME = .554295E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4231E-05 OSCILLATION LIMIT = .3338
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.96 CRITERION= .2848
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1074 CRITERION= .2796 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 30 COMPLETED. CUM ITER = 80
*** TIME = .562184E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .3893E-05 OSCILLATION LIMIT = .3071
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.19 CRITERION= .2837
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1783
HT FLOW CONVERGENCE VALUE= .1142 CRITERION= .2807 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 31 COMPLETED. CUM ITER = 81
*** TIME = .570073E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4024E-05 OSCILLATION LIMIT = .3174
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 46.98 CRITERION= .2847
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1697
HT FLOW CONVERGENCE VALUE= .1077 CRITERION= .2796 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 5 SUBSTEP 32 COMPLETED. CUM ITER = 82
*** TIME = .577963E+07 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .3695E-05 OSCILLATION LIMIT = .2915
*** AUTO STEP TIME: NEXT TIME INC = .13532E+06 INCREASED (FACTOR = 1.7153)

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HT FLOW CONVERGENCE VALUE= 82.12 CRITERION= .2913
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2990
 HT FLOW CONVERGENCE VALUE= .1977 CRITERION= .2806 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 33 COMPLETED. CUM ITER = 83
 *** TIME = .591495E+07 TIME INC = 135324.
 *** RESPONSE EIGENVALUE = .2037E-05 OSCILLATION LIMIT = .2757
 *** AUTO TIME STEP: NEXT TIME INC = .24544E+06 INCREASED (FACTOR = 1.8137)

HT FLOW CONVERGENCE VALUE= 147.2 CRITERION= .3170
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5279
 HT FLOW CONVERGENCE VALUE= .3563 CRITERION= .2794
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1149
 HT FLOW CONVERGENCE VALUE= .5141E-01 CRITERION= .2795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 5 SUBSTEP 34 COMPLETED. CUM ITER = 85
 *** TIME = .616039E+07 TIME INC = 245442.
 *** RESPONSE EIGENVALUE = .2928E-05 OSCILLATION LIMIT = .7186
 *** AUTO TIME STEP: NEXT TIME INC = .15116E+06 DECREASED (FACTOR = .6159)

HT FLOW CONVERGENCE VALUE= 91.64 CRITERION= .2940
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3314
 HT FLOW CONVERGENCE VALUE= .2209 CRITERION= .2804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 5 SUBSTEP 35 COMPLETED. CUM ITER = 86
 *** TIME = .631155E+07 TIME INC = 151157.
 *** RESPONSE EIGENVALUE = .1705E-05 OSCILLATION LIMIT = .2577

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 11:09:08 JUN 12, 1995 CP= 3889.580
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 58.33 CRITERION= .2865
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2106
 HT FLOW CONVERGENCE VALUE= .1451 CRITERION= .2795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 1 COMPLETED. CUM ITER = 87
 *** TIME = .646271E+07 TIME INC = 151157.
 *** RESPONSE EIGENVALUE = .1082E-05 OSCILLATION LIMIT = .1636
 *** AUTO STEP TIME: NEXT TIME INC = .15116E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 59.42 CRITERION= .2857
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2159
 HT FLOW CONVERGENCE VALUE= .1330 CRITERION= .2804 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 2 COMPLETED. CUM ITER = 88
 *** TIME = .661387E+07 TIME INC = 151157.
 *** RESPONSE EIGENVALUE = .5330E-05 OSCILLATION LIMIT = .8057
 *** AUTO TIME STEP: NEXT TIME INC = 93804. DECREASED (FACTOR = .6206)

HT FLOW CONVERGENCE VALUE= 36.03 CRITERION= .2827
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
 HT FLOW CONVERGENCE VALUE= .8091E-01 CRITERION= .2794 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 3 COMPLETED. CUM ITER = 89
 *** TIME = .670767E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .5011E-05 OSCILLATION LIMIT = .4701
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.11 CRITERION= .2818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1359
 HT FLOW CONVERGENCE VALUE= .8391E-01 CRITERION= .2803 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP      6  SUBSTEP      4  COMPLETED.    CUM ITER =    90
*** TIME = .680147E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .5509E-05    OSCILLATION LIMIT = .5168
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.03    CRITERION= .2826
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
    HT FLOW CONVERGENCE VALUE= .8320E-01 CRITERION= .2793    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP      6  SUBSTEP      5  COMPLETED.    CUM ITER =    91
*** TIME = .689528E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .4163E-05    OSCILLATION LIMIT = .3905
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.10    CRITERION= .2817
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1359
    HT FLOW CONVERGENCE VALUE= .8549E-01 CRITERION= .2802    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP      6  SUBSTEP      6  COMPLETED.    CUM ITER =    92
*** TIME = .698908E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .4558E-05    OSCILLATION LIMIT = .4275
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.04    CRITERION= .2825
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
    HT FLOW CONVERGENCE VALUE= .8289E-01 CRITERION= .2793    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP      6  SUBSTEP      7  COMPLETED.    CUM ITER =    93
*** TIME = .708289E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .4119E-05    OSCILLATION LIMIT = .3863
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.09    CRITERION= .2817
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1357
    HT FLOW CONVERGENCE VALUE= .8564E-01 CRITERION= .2801    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP      6  SUBSTEP      8  COMPLETED.    CUM ITER =    94
*** TIME = .717669E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .4352E-05    OSCILLATION LIMIT = .4082
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.05    CRITERION= .2824
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
    HT FLOW CONVERGENCE VALUE= .8269E-01 CRITERION= .2792    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP      6  SUBSTEP      9  COMPLETED.    CUM ITER =    95
*** TIME = .727050E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .4036E-05    OSCILLATION LIMIT = .3786
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.08    CRITERION= .2816
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1355
    HT FLOW CONVERGENCE VALUE= .8567E-01 CRITERION= .2800    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP      6  SUBSTEP     10  COMPLETED.    CUM ITER =    96
*** TIME = .736430E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .4174E-05    OSCILLATION LIMIT = .3915
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 36.06    CRITERION= .2824
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
    HT FLOW CONVERGENCE VALUE= .8265E-01 CRITERION= .2791    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION  1
*** LOAD STEP      6  SUBSTEP     11  COMPLETED.    CUM ITER =    97
*** TIME = .745811E+07    TIME INC =  93804.4
*** RESPONSE EIGENVALUE = .3931E-05    OSCILLATION LIMIT = .3687
*** AUTO STEP TIME: NEXT TIME INC =  93804.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.08    CRITERION= .2815
    EQUIL ITER  1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1353

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HT FLOW CONVERGENCE VALUE= .8566E-01 CRITERION= .2799 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 12 COMPLETED. CUM ITER = 98
*** TIME = .755191E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .4029E-05 OSCILLATION LIMIT = .3780
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.06 CRITERION= .2823
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
HT FLOW CONVERGENCE VALUE= .8265E-01 CRITERION= .2791 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 13 COMPLETED. CUM ITER = 99
*** TIME = .764571E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3824E-05 OSCILLATION LIMIT = .3587
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.07 CRITERION= .2815
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1351
HT FLOW CONVERGENCE VALUE= .8558E-01 CRITERION= .2798 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 14 COMPLETED. CUM ITER = 100
*** TIME = .773952E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3903E-05 OSCILLATION LIMIT = .3662
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.07 CRITERION= .2822
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
HT FLOW CONVERGENCE VALUE= .8266E-01 CRITERION= .2790 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 15 COMPLETED. CUM ITER = 101
*** TIME = .783332E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3720E-05 OSCILLATION LIMIT = .3490
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.06 CRITERION= .2814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1349
HT FLOW CONVERGENCE VALUE= .8548E-01 CRITERION= .2797 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 16 COMPLETED. CUM ITER = 102
*** TIME = .792713E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3790E-05 OSCILLATION LIMIT = .3555
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.08 CRITERION= .2821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
HT FLOW CONVERGENCE VALUE= .8272E-01 CRITERION= .2789 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 17 COMPLETED. CUM ITER = 103
*** TIME = .802093E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3621E-05 OSCILLATION LIMIT = .3397
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.05 CRITERION= .2814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1347
HT FLOW CONVERGENCE VALUE= .8542E-01 CRITERION= .2797 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 18 COMPLETED. CUM ITER = 104
*** TIME = .811474E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3688E-05 OSCILLATION LIMIT = .3459
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.09 CRITERION= .2820
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
HT FLOW CONVERGENCE VALUE= .8282E-01 CRITERION= .2789 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 19 COMPLETED. CUM ITER = 105
*** TIME = .820854E+07 TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3530E-05 OSCILLATION LIMIT = .3311
*** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 37.05 CRITERION= .2813
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1345
 HT FLOW CONVERGENCE VALUE= .8541E-01 CRITERION= .2796 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 20 COMPLETED. CUM ITER = 106
 *** TIME = .830234E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3594E-05 OSCILLATION LIMIT = .3371
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.09 CRITERION= .2819
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
 HT FLOW CONVERGENCE VALUE= .8289E-01 CRITERION= .2788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 21 COMPLETED. CUM ITER = 107
 *** TIME = .839615E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3445E-05 OSCILLATION LIMIT = .3232
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.04 CRITERION= .2812
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1343
 HT FLOW CONVERGENCE VALUE= .8530E-01 CRITERION= .2795 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 22 COMPLETED. CUM ITER = 108
 *** TIME = .848995E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3508E-05 OSCILLATION LIMIT = .3291
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.10 CRITERION= .2818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
 HT FLOW CONVERGENCE VALUE= .8294E-01 CRITERION= .2788 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 23 COMPLETED. CUM ITER = 109
 *** TIME = .858376E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3367E-05 OSCILLATION LIMIT = .3158
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.04 CRITERION= .2812
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1341
 HT FLOW CONVERGENCE VALUE= .8526E-01 CRITERION= .2794 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 24 COMPLETED. CUM ITER = 110
 *** TIME = .867756E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3428E-05 OSCILLATION LIMIT = .3216
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.10 CRITERION= .2818
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
 HT FLOW CONVERGENCE VALUE= .8303E-01 CRITERION= .2787 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 25 COMPLETED. CUM ITER = 111
 *** TIME = .877137E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3295E-05 OSCILLATION LIMIT = .3091
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.03 CRITERION= .2811
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1340
 HT FLOW CONVERGENCE VALUE= .8521E-01 CRITERION= .2793 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 26 COMPLETED. CUM ITER = 112
 *** TIME = .886517E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3355E-05 OSCILLATION LIMIT = .3147
 *** AUTO STEP TIME: NEXT TIME INC = 93804. UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.11 CRITERION= .2817
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
 HT FLOW CONVERGENCE VALUE= .8308E-01 CRITERION= .2786 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 6 SUBSTEP 27 COMPLETED. CUM ITER = 113
 *** TIME = .895898E+07 TIME INC = 93804.4
 *** RESPONSE EIGENVALUE = .3227E-05 OSCILLATION LIMIT = .3027

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*** AUTO STEP TIME: NEXT TIME INC = 93804.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.02    CRITERION= .2810
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1338
HT FLOW CONVERGENCE VALUE= .8512E-01 CRITERION= .2792    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 28 COMPLETED. CUM ITER = 114
*** TIME = .905278E+07    TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3286E-05    OSCILLATION LIMIT = .3082
*** AUTO STEP TIME: NEXT TIME INC = 93804.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 36.12    CRITERION= .2816
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1307
HT FLOW CONVERGENCE VALUE= .8309E-01 CRITERION= .2786    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 29 COMPLETED. CUM ITER = 115
*** TIME = .914658E+07    TIME INC = 93804.4
*** RESPONSE EIGENVALUE = .3165E-05    OSCILLATION LIMIT = .2969
*** AUTO TIME STEP: NEXT TIME INC = .15797E+06    INCREASED (FACTOR = 1.6841)

HT FLOW CONVERGENCE VALUE= 61.98    CRITERION= .2853
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2229
HT FLOW CONVERGENCE VALUE= .1457    CRITERION= .2791    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 30 COMPLETED. CUM ITER = 116
*** TIME = .930456E+07    TIME INC = 157973.
*** RESPONSE EIGENVALUE = .2035E-05    OSCILLATION LIMIT = .3214
*** AUTO TIME STEP: NEXT TIME INC = 81377.    DECREASED (FACTOR = .5151)

HT FLOW CONVERGENCE VALUE= 31.29    CRITERION= .2809
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1134
HT FLOW CONVERGENCE VALUE= .7028E-01 CRITERION= .2785    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 31 COMPLETED. CUM ITER = 117
*** TIME = .938593E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3994E-05    OSCILLATION LIMIT = .3250
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.18    CRITERION= .2803
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .7177E-01 CRITERION= .2790    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 6 SUBSTEP 32 COMPLETED. CUM ITER = 118
*** TIME = .946731E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .4612E-05    OSCILLATION LIMIT = .3753

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    11:37:26 JUN 12, 1995 CP= 5519.200
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 23.93    CRITERION= .2801
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
HT FLOW CONVERGENCE VALUE= .5582E-01 CRITERION= .2785    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 1 COMPLETED. CUM ITER = 119
*** TIME = .954869E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3370E-05    OSCILLATION LIMIT = .2742
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.78    CRITERION= .2796
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8927E-01
HT FLOW CONVERGENCE VALUE= .5527E-01 CRITERION= .2790    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 2 COMPLETED. CUM ITER = 120

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*** TIME = .963007E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .4577E-05    OSCILLATION LIMIT = .3725
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 23.94    CRITERION= .2800
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
    HT FLOW CONVERGENCE VALUE= .5519E-01    CRITERION= .2784    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 3 COMPLETED.    CUM ITER = 121
*** TIME = .971144E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .4065E-05    OSCILLATION LIMIT = .3308
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.77    CRITERION= .2795
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8920E-01
    HT FLOW CONVERGENCE VALUE= .5562E-01    CRITERION= .2789    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 4 COMPLETED.    CUM ITER = 122
*** TIME = .979282E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .4176E-05    OSCILLATION LIMIT = .3398
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 23.94    CRITERION= .2800
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
    HT FLOW CONVERGENCE VALUE= .5504E-01    CRITERION= .2784    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 5 COMPLETED.    CUM ITER = 123
*** TIME = .987420E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3995E-05    OSCILLATION LIMIT = .3251
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.77    CRITERION= .2794
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8911E-01
    HT FLOW CONVERGENCE VALUE= .5569E-01    CRITERION= .2788    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 6 COMPLETED.    CUM ITER = 124
*** TIME = .995558E+07    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .4034E-05    OSCILLATION LIMIT = .3283
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 23.95    CRITERION= .2799
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
    HT FLOW CONVERGENCE VALUE= .5494E-01    CRITERION= .2783    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 7 COMPLETED.    CUM ITER = 125
*** TIME = .100370E+08    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3944E-05    OSCILLATION LIMIT = .3210
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.76    CRITERION= .2794
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8902E-01
    HT FLOW CONVERGENCE VALUE= .5567E-01    CRITERION= .2788    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 8 COMPLETED.    CUM ITER = 126
*** TIME = .101183E+08    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3931E-05    OSCILLATION LIMIT = .3199
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 23.95    CRITERION= .2798
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
    HT FLOW CONVERGENCE VALUE= .5489E-01    CRITERION= .2783    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 9 COMPLETED.    CUM ITER = 127
*** TIME = .101997E+08    TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3878E-05    OSCILLATION LIMIT = .3156
*** AUTO STEP TIME: NEXT TIME INC = 81377.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 24.76    CRITERION= .2793
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8893E-01
    HT FLOW CONVERGENCE VALUE= .5566E-01    CRITERION= .2787    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 10 COMPLETED. CUM ITER = 128
*** TIME = .102811E+08 TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3845E-05 OSCILLATION LIMIT = .3129
*** AUTO STEP TIME: NEXT TIME INC = 81377. UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2797
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
HT FLOW CONVERGENCE VALUE= .5489E-01 CRITERION= .2782 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 11 COMPLETED. CUM ITER = 129
*** TIME = .103625E+08 TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3811E-05 OSCILLATION LIMIT = .3101
*** AUTO STEP TIME: NEXT TIME INC = 81377. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.75 CRITERION= .2793
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8884E-01
HT FLOW CONVERGENCE VALUE= .5563E-01 CRITERION= .2786 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 12 COMPLETED. CUM ITER = 130
*** TIME = .104438E+08 TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3771E-05 OSCILLATION LIMIT = .3069
*** AUTO STEP TIME: NEXT TIME INC = 81377. UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.96 CRITERION= .2797
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
HT FLOW CONVERGENCE VALUE= .5490E-01 CRITERION= .2781 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 13 COMPLETED. CUM ITER = 131
*** TIME = .105252E+08 TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3746E-05 OSCILLATION LIMIT = .3048
*** AUTO STEP TIME: NEXT TIME INC = 81377. UNCHANGED

HT FLOW CONVERGENCE VALUE= 24.75 CRITERION= .2792
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8876E-01
HT FLOW CONVERGENCE VALUE= .5562E-01 CRITERION= .2786 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 14 COMPLETED. CUM ITER = 132
*** TIME = .106066E+08 TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3705E-05 OSCILLATION LIMIT = .3015
*** AUTO STEP TIME: NEXT TIME INC = 81377. UNCHANGED

HT FLOW CONVERGENCE VALUE= 23.97 CRITERION= .2796
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8708E-01
HT FLOW CONVERGENCE VALUE= .5493E-01 CRITERION= .2781 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 15 COMPLETED. CUM ITER = 133
*** TIME = .106880E+08 TIME INC = 81377.3
*** RESPONSE EIGENVALUE = .3685E-05 OSCILLATION LIMIT = .2999
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 INCREASED (FACTOR = 1.6674)

HT FLOW CONVERGENCE VALUE= 40.96 CRITERION= .2810
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1466
HT FLOW CONVERGENCE VALUE= .9438E-01 CRITERION= .2785 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 16 COMPLETED. CUM ITER = 134
*** TIME = .108237E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .2442E-05 OSCILLATION LIMIT = .3313
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.19 CRITERION= .2814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1452
HT FLOW CONVERGENCE VALUE= .9294E-01 CRITERION= .2780 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 17 COMPLETED. CUM ITER = 135
*** TIME = .109593E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .2605E-05 OSCILLATION LIMIT = .3535
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.95 CRITERION= .2810

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1466
HT FLOW CONVERGENCE VALUE= .9213E-01 CRITERION= .2784 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 18 COMPLETED. CUM ITER = 136
*** TIME = .110950E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .3202E-05 OSCILLATION LIMIT = .4344
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.19 CRITERION= .2813
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1452
HT FLOW CONVERGENCE VALUE= .9186E-01 CRITERION= .2779 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 19 COMPLETED. CUM ITER = 137
*** TIME = .112307E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .3045E-05 OSCILLATION LIMIT = .4132
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.95 CRITERION= .2809
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1466
HT FLOW CONVERGENCE VALUE= .9233E-01 CRITERION= .2783 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 20 COMPLETED. CUM ITER = 138
*** TIME = .113664E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .3056E-05 OSCILLATION LIMIT = .4146
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.19 CRITERION= .2812
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1452
HT FLOW CONVERGENCE VALUE= .9185E-01 CRITERION= .2778 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 21 COMPLETED. CUM ITER = 139
*** TIME = .115021E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .3018E-05 OSCILLATION LIMIT = .4095
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.95 CRITERION= .2808
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .9229E-01 CRITERION= .2781 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 22 COMPLETED. CUM ITER = 140
*** TIME = .116378E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .3042E-05 OSCILLATION LIMIT = .4128
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.19 CRITERION= .2811
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1452
HT FLOW CONVERGENCE VALUE= .9168E-01 CRITERION= .2777 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 23 COMPLETED. CUM ITER = 141
*** TIME = .117735E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .3009E-05 OSCILLATION LIMIT = .4083
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.95 CRITERION= .2807
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
HT FLOW CONVERGENCE VALUE= .9215E-01 CRITERION= .2780 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 24 COMPLETED. CUM ITER = 142
*** TIME = .119092E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .3022E-05 OSCILLATION LIMIT = .4100
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.20 CRITERION= .2809
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1452
HT FLOW CONVERGENCE VALUE= .9167E-01 CRITERION= .2776 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 7 SUBSTEP 25 COMPLETED. CUM ITER = 143
*** TIME = .120448E+08 TIME INC = 135687.
*** RESPONSE EIGENVALUE = .2998E-05 OSCILLATION LIMIT = .4068
*** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 40.94 CRITERION= .2805
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1465
 HT FLOW CONVERGENCE VALUE= .9211E-01 CRITERION= .2779 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 26 COMPLETED. CUM ITER = 144
 *** TIME = .121805E+08 TIME INC = 135687.
 *** RESPONSE EIGENVALUE = .3004E-05 OSCILLATION LIMIT = .4077
 *** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.20 CRITERION= .2808
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1452
 HT FLOW CONVERGENCE VALUE= .9159E-01 CRITERION= .2775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 27 COMPLETED. CUM ITER = 145
 *** TIME = .123162E+08 TIME INC = 135687.
 *** RESPONSE EIGENVALUE = .2985E-05 OSCILLATION LIMIT = .4050
 *** AUTO STEP TIME: NEXT TIME INC = .13569E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 40.94 CRITERION= .2804
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1464
 HT FLOW CONVERGENCE VALUE= .9200E-01 CRITERION= .2778 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 28 COMPLETED. CUM ITER = 146
 *** TIME = .124519E+08 TIME INC = 135687.
 *** RESPONSE EIGENVALUE = .2988E-05 OSCILLATION LIMIT = .4054
 *** AUTO STEP TIME: NEXT TIME INC = 85587. DECREASED (FACTOR = .6308)

HT FLOW CONVERGENCE VALUE= 25.24 CRITERION= .2790
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9159E-01
 HT FLOW CONVERGENCE VALUE= .5625E-01 CRITERION= .2774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 29 COMPLETED. CUM ITER = 147
 *** TIME = .125375E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .4251E-05 OSCILLATION LIMIT = .3638
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 25.98 CRITERION= .2786
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9278E-01
 HT FLOW CONVERGENCE VALUE= .5722E-01 CRITERION= .2777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 7 SUBSTEP 30 COMPLETED. CUM ITER = 148
 *** TIME = .126231E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .4068E-05 OSCILLATION LIMIT = .3482

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:03:14 JUN 12, 1995 CP= 7040.000
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2785
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4722E-01 CRITERION= .2774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 1 COMPLETED. CUM ITER = 149
 *** TIME = .127087E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3354E-05 OSCILLATION LIMIT = .2871
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.19 CRITERION= .2782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7567E-01
 HT FLOW CONVERGENCE VALUE= .4635E-01 CRITERION= .2777 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 2 COMPLETED. CUM ITER = 150
 *** TIME = .127942E+08 TIME INC = 85587.1

*** RESPONSE EIGENVALUE = .4248E-05 OSCILLATION LIMIT = .3636
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2784
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4682E-01 CRITERION= .2773 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 3 COMPLETED. CUM ITER = 151
 *** TIME = .128798E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3952E-05 OSCILLATION LIMIT = .3382
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.19 CRITERION= .2781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7565E-01
 HT FLOW CONVERGENCE VALUE= .4656E-01 CRITERION= .2776 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 4 COMPLETED. CUM ITER = 152
 *** TIME = .129654E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3969E-05 OSCILLATION LIMIT = .3397
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2784
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4674E-01 CRITERION= .2772 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 5 COMPLETED. CUM ITER = 153
 *** TIME = .130510E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3921E-05 OSCILLATION LIMIT = .3356
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.18 CRITERION= .2780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7562E-01
 HT FLOW CONVERGENCE VALUE= .4662E-01 CRITERION= .2775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 6 COMPLETED. CUM ITER = 154
 *** TIME = .131366E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3902E-05 OSCILLATION LIMIT = .3340
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2783
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4668E-01 CRITERION= .2772 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 7 COMPLETED. CUM ITER = 155
 *** TIME = .132222E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3911E-05 OSCILLATION LIMIT = .3347
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.18 CRITERION= .2780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7560E-01
 HT FLOW CONVERGENCE VALUE= .4663E-01 CRITERION= .2775 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 8 COMPLETED. CUM ITER = 156
 *** TIME = .133078E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3856E-05 OSCILLATION LIMIT = .3300
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.50 CRITERION= .2782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4663E-01 CRITERION= .2771 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 9 COMPLETED. CUM ITER = 157
 *** TIME = .133934E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3888E-05 OSCILLATION LIMIT = .3327
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.18 CRITERION= .2779
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7557E-01
 HT FLOW CONVERGENCE VALUE= .4659E-01 CRITERION= .2774 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 10 COMPLETED. CUM ITER = 158
 *** TIME = .134789E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3820E-05 OSCILLATION LIMIT = .3270
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.50 CRITERION= .2782
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4661E-01 CRITERION= .2770 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 11 COMPLETED. CUM ITER = 159
 *** TIME = .135645E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3861E-05 OSCILLATION LIMIT = .3305
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .2778
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7555E-01
 HT FLOW CONVERGENCE VALUE= .4664E-01 CRITERION= .2773 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 12 COMPLETED. CUM ITER = 160
 *** TIME = .136501E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3790E-05 OSCILLATION LIMIT = .3244
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.50 CRITERION= .2781
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4663E-01 CRITERION= .2770 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 13 COMPLETED. CUM ITER = 161
 *** TIME = .137357E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3834E-05 OSCILLATION LIMIT = .3282
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .2778
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7553E-01
 HT FLOW CONVERGENCE VALUE= .4670E-01 CRITERION= .2773 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 14 COMPLETED. CUM ITER = 162
 *** TIME = .138213E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3762E-05 OSCILLATION LIMIT = .3220
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .2780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4670E-01 CRITERION= .2769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 15 COMPLETED. CUM ITER = 163
 *** TIME = .139069E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3808E-05 OSCILLATION LIMIT = .3259
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .2777
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7550E-01
 HT FLOW CONVERGENCE VALUE= .4666E-01 CRITERION= .2772 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 16 COMPLETED. CUM ITER = 164
 *** TIME = .139925E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3737E-05 OSCILLATION LIMIT = .3199
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .2780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4677E-01 CRITERION= .2769 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 8 SUBSTEP 17 COMPLETED. CUM ITER = 165
 *** TIME = .140781E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3782E-05 OSCILLATION LIMIT = .3237
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.17 CRITERION= .2777
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7548E-01


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HT FLOW CONVERGENCE VALUE= .4680E-01 CRITERION= .2771 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 18 COMPLETED. CUM ITER = 166
*** TIME = .141636E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3714E-05 OSCILLATION LIMIT = .3178
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .2779
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4678E-01 CRITERION= .2768 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 19 COMPLETED. CUM ITER = 167
*** TIME = .142492E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3758E-05 OSCILLATION LIMIT = .3217
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .2776
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7546E-01
HT FLOW CONVERGENCE VALUE= .4683E-01 CRITERION= .2770 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 20 COMPLETED. CUM ITER = 168
*** TIME = .143348E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3692E-05 OSCILLATION LIMIT = .3160
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.51 CRITERION= .2778
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4684E-01 CRITERION= .2767 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 21 COMPLETED. CUM ITER = 169
*** TIME = .144204E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3736E-05 OSCILLATION LIMIT = .3197
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .2775
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7544E-01
HT FLOW CONVERGENCE VALUE= .4682E-01 CRITERION= .2770 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 22 COMPLETED. CUM ITER = 170
*** TIME = .145060E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3672E-05 OSCILLATION LIMIT = .3143
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.52 CRITERION= .2777
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4686E-01 CRITERION= .2767 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 23 COMPLETED. CUM ITER = 171
*** TIME = .145916E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3714E-05 OSCILLATION LIMIT = .3179
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.16 CRITERION= .2775
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7542E-01
HT FLOW CONVERGENCE VALUE= .4678E-01 CRITERION= .2769 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 24 COMPLETED. CUM ITER = 172
*** TIME = .146772E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3652E-05 OSCILLATION LIMIT = .3126
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.52 CRITERION= .2777
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4683E-01 CRITERION= .2766 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 25 COMPLETED. CUM ITER = 173
*** TIME = .147627E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3694E-05 OSCILLATION LIMIT = .3161
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 21.15    CRITERION= .2774
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7540E-01
HT FLOW CONVERGENCE VALUE= .4683E-01 CRITERION= .2768    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 26 COMPLETED. CUM ITER = 174
*** TIME = .148483E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3634E-05 OSCILLATION LIMIT = .3110
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.52    CRITERION= .2776
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4687E-01 CRITERION= .2765    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 27 COMPLETED. CUM ITER = 175
*** TIME = .149339E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3674E-05 OSCILLATION LIMIT = .3145
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.15    CRITERION= .2773
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7539E-01
HT FLOW CONVERGENCE VALUE= .4680E-01 CRITERION= .2768    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 28 COMPLETED. CUM ITER = 176
*** TIME = .150195E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3617E-05 OSCILLATION LIMIT = .3096
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.52    CRITERION= .2775
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4693E-01 CRITERION= .2765    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 29 COMPLETED. CUM ITER = 177
*** TIME = .151051E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3656E-05 OSCILLATION LIMIT = .3129
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.15    CRITERION= .2773
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7537E-01
HT FLOW CONVERGENCE VALUE= .4685E-01 CRITERION= .2767    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 30 COMPLETED. CUM ITER = 178
*** TIME = .151907E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3601E-05 OSCILLATION LIMIT = .3082
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.53    CRITERION= .2775
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4691E-01 CRITERION= .2764    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 31 COMPLETED. CUM ITER = 179
*** TIME = .152763E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3638E-05 OSCILLATION LIMIT = .3114
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.15    CRITERION= .2772
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7535E-01
HT FLOW CONVERGENCE VALUE= .4689E-01 CRITERION= .2766    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 32 COMPLETED. CUM ITER = 180
*** TIME = .153619E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3585E-05 OSCILLATION LIMIT = .3068
*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.53    CRITERION= .2774
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
HT FLOW CONVERGENCE VALUE= .4710E-01 CRITERION= .2763    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 8 SUBSTEP 33 COMPLETED. CUM ITER = 181
*** TIME = .154474E+08 TIME INC = 85587.1
*** RESPONSE EIGENVALUE = .3621E-05 OSCILLATION LIMIT = .3099

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*** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 21.14 CRITERION= .2771
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7534E-01
 HT FLOW CONVERGENCE VALUE= .4702E-01 CRITERION= .2766 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 34 COMPLETED. CUM ITER = 182
 *** TIME = .155330E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3570E-05 OSCILLATION LIMIT = .3056
 *** AUTO STEP TIME: NEXT TIME INC = 85587. UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.53 CRITERION= .2773
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7460E-01
 HT FLOW CONVERGENCE VALUE= .4712E-01 CRITERION= .2763 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 35 COMPLETED. CUM ITER = 183
 *** TIME = .156186E+08 TIME INC = 85587.1
 *** RESPONSE EIGENVALUE = .3605E-05 OSCILLATION LIMIT = .3086
 *** AUTO TIME STEP: NEXT TIME INC = 80105. DECREASED (FACTOR = .9360)

HT FLOW CONVERGENCE VALUE= 19.81 CRITERION= .2770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7055E-01
 HT FLOW CONVERGENCE VALUE= .4391E-01 CRITERION= .2765 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 36 COMPLETED. CUM ITER = 184
 *** TIME = .156987E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .3716E-05 OSCILLATION LIMIT = .2977
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 19.20 CRITERION= .2772
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6982E-01
 HT FLOW CONVERGENCE VALUE= .4400E-01 CRITERION= .2762 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 8 SUBSTEP 37 COMPLETED. CUM ITER = 185
 *** TIME = .157788E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .3743E-05 OSCILLATION LIMIT = .2998

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 12:35:08 JUN 12, 1995 CP= 8916.030
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 16.94 CRITERION= .2767
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6033E-01
 HT FLOW CONVERGENCE VALUE= .3759E-01 CRITERION= .2765 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 1 COMPLETED. CUM ITER = 186
 *** TIME = .158589E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .3799E-05 OSCILLATION LIMIT = .3044
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.33 CRITERION= .2770
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
 HT FLOW CONVERGENCE VALUE= .3699E-01 CRITERION= .2762 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 2 COMPLETED. CUM ITER = 187
 *** TIME = .159390E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4582E-05 OSCILLATION LIMIT = .3670
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.94 CRITERION= .2767
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6028E-01
 HT FLOW CONVERGENCE VALUE= .3734E-01 CRITERION= .2764 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 3 COMPLETED. CUM ITER = 188

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*** TIME = .160191E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4254E-05    OSCILLATION LIMIT = .3407
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.33    CRITERION= .2769
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
    HT FLOW CONVERGENCE VALUE= .3711E-01 CRITERION= .2761    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 4 COMPLETED. CUM ITER = 189
*** TIME = .160993E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4367E-05    OSCILLATION LIMIT = .3498
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.94    CRITERION= .2766
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6026E-01
    HT FLOW CONVERGENCE VALUE= .3732E-01 CRITERION= .2763    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 5 COMPLETED. CUM ITER = 190
*** TIME = .161794E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4220E-05    OSCILLATION LIMIT = .3380
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.33    CRITERION= .2768
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
    HT FLOW CONVERGENCE VALUE= .3717E-01 CRITERION= .2761    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 6 COMPLETED. CUM ITER = 191
*** TIME = .162595E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4318E-05    OSCILLATION LIMIT = .3459
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.94    CRITERION= .2766
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6025E-01
    HT FLOW CONVERGENCE VALUE= .3726E-01 CRITERION= .2763    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 7 COMPLETED. CUM ITER = 192
*** TIME = .163396E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4212E-05    OSCILLATION LIMIT = .3374
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.33    CRITERION= .2768
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
    HT FLOW CONVERGENCE VALUE= .3734E-01 CRITERION= .2760    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 8 COMPLETED. CUM ITER = 193
*** TIME = .164197E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4285E-05    OSCILLATION LIMIT = .3432
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.93    CRITERION= .2765
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6023E-01
    HT FLOW CONVERGENCE VALUE= .3746E-01 CRITERION= .2762    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 9 COMPLETED. CUM ITER = 194
*** TIME = .164998E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4197E-05    OSCILLATION LIMIT = .3362
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.34    CRITERION= .2767
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
    HT FLOW CONVERGENCE VALUE= .3739E-01 CRITERION= .2759    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 10 COMPLETED. CUM ITER = 195
*** TIME = .165799E+08    TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4258E-05    OSCILLATION LIMIT = .3411
*** AUTO STEP TIME: NEXT TIME INC = 80105.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 16.93    CRITERION= .2764
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6021E-01
    HT FLOW CONVERGENCE VALUE= .3740E-01 CRITERION= .2761    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 11 COMPLETED. CUM ITER = 196
*** TIME = .166600E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4180E-05 OSCILLATION LIMIT = .3348
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.34 CRITERION= .2766
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3754E-01 CRITERION= .2759 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 12 COMPLETED. CUM ITER = 197
*** TIME = .167401E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4234E-05 OSCILLATION LIMIT = .3392
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.93 CRITERION= .2764
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6020E-01
HT FLOW CONVERGENCE VALUE= .3754E-01 CRITERION= .2761 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 13 COMPLETED. CUM ITER = 198
*** TIME = .168202E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4162E-05 OSCILLATION LIMIT = .3334
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.34 CRITERION= .2766
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3754E-01 CRITERION= .2758 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 14 COMPLETED. CUM ITER = 199
*** TIME = .169003E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4213E-05 OSCILLATION LIMIT = .3375
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.93 CRITERION= .2763
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6018E-01
HT FLOW CONVERGENCE VALUE= .3757E-01 CRITERION= .2760 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 15 COMPLETED. CUM ITER = 200
*** TIME = .169804E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4145E-05 OSCILLATION LIMIT = .3321
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.34 CRITERION= .2765
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3769E-01 CRITERION= .2758 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 16 COMPLETED. CUM ITER = 201
*** TIME = .170605E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4193E-05 OSCILLATION LIMIT = .3359
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.92 CRITERION= .2763
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6017E-01
HT FLOW CONVERGENCE VALUE= .3761E-01 CRITERION= .2760 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 17 COMPLETED. CUM ITER = 202
*** TIME = .171406E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4129E-05 OSCILLATION LIMIT = .3307
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.35 CRITERION= .2764
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3771E-01 CRITERION= .2757 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 18 COMPLETED. CUM ITER = 203
*** TIME = .172207E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4174E-05 OSCILLATION LIMIT = .3343
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.92 CRITERION= .2762

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6016E-01
HT FLOW CONVERGENCE VALUE= .3770E-01 CRITERION= .2759 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 19 COMPLETED. CUM ITER = 204
*** TIME = .173008E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4113E-05 OSCILLATION LIMIT = .3295
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.35 CRITERION= .2764
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3783E-01 CRITERION= .2756 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 20 COMPLETED. CUM ITER = 205
*** TIME = .173809E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4156E-05 OSCILLATION LIMIT = .3329
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.92 CRITERION= .2762
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6014E-01
HT FLOW CONVERGENCE VALUE= .3775E-01 CRITERION= .2758 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 21 COMPLETED. CUM ITER = 206
*** TIME = .174610E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4099E-05 OSCILLATION LIMIT = .3283
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.35 CRITERION= .2763
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3788E-01 CRITERION= .2756 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 22 COMPLETED. CUM ITER = 207
*** TIME = .175411E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4140E-05 OSCILLATION LIMIT = .3316
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.92 CRITERION= .2761
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6013E-01
HT FLOW CONVERGENCE VALUE= .3781E-01 CRITERION= .2758 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 23 COMPLETED. CUM ITER = 208
*** TIME = .176213E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4085E-05 OSCILLATION LIMIT = .3272
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.35 CRITERION= .2763
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3793E-01 CRITERION= .2755 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 24 COMPLETED. CUM ITER = 209
*** TIME = .177014E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4124E-05 OSCILLATION LIMIT = .3304
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.91 CRITERION= .2760
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6012E-01
HT FLOW CONVERGENCE VALUE= .3786E-01 CRITERION= .2757 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 25 COMPLETED. CUM ITER = 210
*** TIME = .177815E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4071E-05 OSCILLATION LIMIT = .3261
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.35 CRITERION= .2762
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3810E-01 CRITERION= .2755 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 26 COMPLETED. CUM ITER = 211
*** TIME = .178616E+08 TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4108E-05 OSCILLATION LIMIT = .3291
*** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 16.91 CRITERION= .2760
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6011E-01
 HT FLOW CONVERGENCE VALUE= .3802E-01 CRITERION= .2756 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 27 COMPLETED. CUM ITER = 212
 *** TIME = .179417E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4058E-05 OSCILLATION LIMIT = .3250
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.36 CRITERION= .2761
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
 HT FLOW CONVERGENCE VALUE= .3820E-01 CRITERION= .2754 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 28 COMPLETED. CUM ITER = 213
 *** TIME = .180218E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4093E-05 OSCILLATION LIMIT = .3278
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.91 CRITERION= .2759
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6009E-01
 HT FLOW CONVERGENCE VALUE= .3806E-01 CRITERION= .2756 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 29 COMPLETED. CUM ITER = 214
 *** TIME = .181019E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4044E-05 OSCILLATION LIMIT = .3240
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.36 CRITERION= .2761
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
 HT FLOW CONVERGENCE VALUE= .3825E-01 CRITERION= .2753 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 30 COMPLETED. CUM ITER = 215
 *** TIME = .181820E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4078E-05 OSCILLATION LIMIT = .3267
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.91 CRITERION= .2759
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6008E-01
 HT FLOW CONVERGENCE VALUE= .3831E-01 CRITERION= .2755 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 31 COMPLETED. CUM ITER = 216
 *** TIME = .182621E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4032E-05 OSCILLATION LIMIT = .3230
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.36 CRITERION= .2760
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
 HT FLOW CONVERGENCE VALUE= .3851E-01 CRITERION= .2753 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 32 COMPLETED. CUM ITER = 217
 *** TIME = .183422E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4064E-05 OSCILLATION LIMIT = .3255
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.91 CRITERION= .2758
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6007E-01
 HT FLOW CONVERGENCE VALUE= .3841E-01 CRITERION= .2755 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 33 COMPLETED. CUM ITER = 218
 *** TIME = .184223E+08 TIME INC = 80105.3
 *** RESPONSE EIGENVALUE = .4020E-05 OSCILLATION LIMIT = .3220
 *** AUTO STEP TIME: NEXT TIME INC = 80105. UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.36 CRITERION= .2759
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
 HT FLOW CONVERGENCE VALUE= .3860E-01 CRITERION= .2752 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 9 SUBSTEP 34 COMPLETED. CUM ITER = 219
 *** TIME = .185024E+08 TIME INC = 80105.3

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*** RESPONSE EIGENVALUE = .4051E-05  OSCILLATION LIMIT = .3245
*** AUTO STEP TIME: NEXT TIME INC = 80105.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.90  CRITERION= .2757
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6006E-01
HT FLOW CONVERGENCE VALUE= .3856E-01 CRITERION= .2754  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 35 COMPLETED. CUM ITER = 220
*** TIME = .185825E+08  TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4009E-05  OSCILLATION LIMIT = .3211
*** AUTO STEP TIME: NEXT TIME INC = 80105.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.36  CRITERION= .2759
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3873E-01 CRITERION= .2752  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 36 COMPLETED. CUM ITER = 221
*** TIME = .186626E+08  TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4038E-05  OSCILLATION LIMIT = .3234
*** AUTO STEP TIME: NEXT TIME INC = 80105.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.90  CRITERION= .2757
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .6005E-01
HT FLOW CONVERGENCE VALUE= .3854E-01 CRITERION= .2753  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 37 COMPLETED. CUM ITER = 222
*** TIME = .187427E+08  TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .3998E-05  OSCILLATION LIMIT = .3203
*** AUTO STEP TIME: NEXT TIME INC = 80105.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 16.37  CRITERION= .2758
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5951E-01
HT FLOW CONVERGENCE VALUE= .3872E-01 CRITERION= .2751  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 38 COMPLETED. CUM ITER = 223
*** TIME = .188228E+08  TIME INC = 80105.3
*** RESPONSE EIGENVALUE = .4025E-05  OSCILLATION LIMIT = .3224
*** AUTO TIME STEP: NEXT TIME INC = 55879.  DECREASED (FACTOR = .6976)

HT FLOW CONVERGENCE VALUE= 11.88  CRITERION= .2754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4208E-01
HT FLOW CONVERGENCE VALUE= .2659E-01 CRITERION= .2753  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 39 COMPLETED. CUM ITER = 224
*** TIME = .188787E+08  TIME INC = 55878.6
*** RESPONSE EIGENVALUE = .5055E-05  OSCILLATION LIMIT = .2824
*** AUTO STEP TIME: NEXT TIME INC = 55879.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.35  CRITERION= .2755
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4151E-01
HT FLOW CONVERGENCE VALUE= .2687E-01 CRITERION= .2751  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 9 SUBSTEP 40 COMPLETED. CUM ITER = 225
*** TIME = .189346E+08  TIME INC = 55878.6
*** RESPONSE EIGENVALUE = .5104E-05  OSCILLATION LIMIT = .2852

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 13:09:04 JUN 12, 1995 CP= 10938.600
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 14.50  CRITERION= .2754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5161E-01
HT FLOW CONVERGENCE VALUE= .3335E-01 CRITERION= .2752  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 10 SUBSTEP 1 COMPLETED. CUM ITER = 226
*** TIME = .190135E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .3799E-05 OSCILLATION LIMIT = .2997
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.96 CRITERION= .2756
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
HT FLOW CONVERGENCE VALUE= .3300E-01 CRITERION= .2750 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 2 COMPLETED. CUM ITER = 227
*** TIME = .190924E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4453E-05 OSCILLATION LIMIT = .3513
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.50 CRITERION= .2754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5158E-01
HT FLOW CONVERGENCE VALUE= .3291E-01 CRITERION= .2752 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 3 COMPLETED. CUM ITER = 228
*** TIME = .191713E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4622E-05 OSCILLATION LIMIT = .3646
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.97 CRITERION= .2755
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
HT FLOW CONVERGENCE VALUE= .3292E-01 CRITERION= .2750 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 4 COMPLETED. CUM ITER = 229
*** TIME = .192502E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4727E-05 OSCILLATION LIMIT = .3729
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.50 CRITERION= .2753
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5157E-01
HT FLOW CONVERGENCE VALUE= .3294E-01 CRITERION= .2751 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 5 COMPLETED. CUM ITER = 230
*** TIME = .193291E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4628E-05 OSCILLATION LIMIT = .3651
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.97 CRITERION= .2755
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
HT FLOW CONVERGENCE VALUE= .3302E-01 CRITERION= .2749 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 6 COMPLETED. CUM ITER = 231
*** TIME = .194080E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4681E-05 OSCILLATION LIMIT = .3693
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.49 CRITERION= .2753
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5156E-01
HT FLOW CONVERGENCE VALUE= .3296E-01 CRITERION= .2751 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 7 COMPLETED. CUM ITER = 232
*** TIME = .194868E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4616E-05 OSCILLATION LIMIT = .3641
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.97 CRITERION= .2754
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
HT FLOW CONVERGENCE VALUE= .3302E-01 CRITERION= .2748 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 8 COMPLETED. CUM ITER = 233
*** TIME = .195657E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4660E-05 OSCILLATION LIMIT = .3676
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.49 CRITERION= .2752
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5155E-01

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HT FLOW CONVERGENCE VALUE= .3292E-01 CRITERION= .2750 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 9 COMPLETED. CUM ITER = 234
 *** TIME = .196446E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4604E-05 OSCILLATION LIMIT = .3632
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.97 CRITERION= .2754
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3304E-01 CRITERION= .2748 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 10 COMPLETED. CUM ITER = 235
 *** TIME = .197235E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4641E-05 OSCILLATION LIMIT = .3662
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.49 CRITERION= .2752
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5154E-01
 HT FLOW CONVERGENCE VALUE= .3293E-01 CRITERION= .2749 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 11 COMPLETED. CUM ITER = 236
 *** TIME = .198024E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4591E-05 OSCILLATION LIMIT = .3622
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.97 CRITERION= .2753
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3304E-01 CRITERION= .2747 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 12 COMPLETED. CUM ITER = 237
 *** TIME = .198813E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4624E-05 OSCILLATION LIMIT = .3648
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.49 CRITERION= .2751
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5153E-01
 HT FLOW CONVERGENCE VALUE= .3294E-01 CRITERION= .2749 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 13 COMPLETED. CUM ITER = 238
 *** TIME = .199602E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4578E-05 OSCILLATION LIMIT = .3612
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.98 CRITERION= .2752
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3310E-01 CRITERION= .2747 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 14 COMPLETED. CUM ITER = 239
 *** TIME = .200391E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4608E-05 OSCILLATION LIMIT = .3636
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.49 CRITERION= .2750
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5152E-01
 HT FLOW CONVERGENCE VALUE= .3296E-01 CRITERION= .2748 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 15 COMPLETED. CUM ITER = 240
 *** TIME = .201180E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4566E-05 OSCILLATION LIMIT = .3602
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.98 CRITERION= .2752
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3313E-01 CRITERION= .2746 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 16 COMPLETED. CUM ITER = 241
 *** TIME = .201969E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4594E-05 OSCILLATION LIMIT = .3624
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.49 CRITERION= .2750
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5151E-01
 HT FLOW CONVERGENCE VALUE= .3298E-01 CRITERION= .2748 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 17 COMPLETED. CUM ITER = 242
 *** TIME = .202758E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4553E-05 OSCILLATION LIMIT = .3592
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.98 CRITERION= .2751
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3318E-01 CRITERION= .2746 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 18 COMPLETED. CUM ITER = 243
 *** TIME = .203547E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4579E-05 OSCILLATION LIMIT = .3613
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.48 CRITERION= .2749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5150E-01
 HT FLOW CONVERGENCE VALUE= .3306E-01 CRITERION= .2747 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 19 COMPLETED. CUM ITER = 244
 *** TIME = .204336E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4541E-05 OSCILLATION LIMIT = .3583
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.98 CRITERION= .2751
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3331E-01 CRITERION= .2745 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 20 COMPLETED. CUM ITER = 245
 *** TIME = .205125E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4565E-05 OSCILLATION LIMIT = .3602
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.48 CRITERION= .2749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5150E-01
 HT FLOW CONVERGENCE VALUE= .3319E-01 CRITERION= .2746 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 21 COMPLETED. CUM ITER = 246
 *** TIME = .205914E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4529E-05 OSCILLATION LIMIT = .3573
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.98 CRITERION= .2750
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3337E-01 CRITERION= .2744 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 22 COMPLETED. CUM ITER = 247
 *** TIME = .206703E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4552E-05 OSCILLATION LIMIT = .3591
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.48 CRITERION= .2748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5149E-01
 HT FLOW CONVERGENCE VALUE= .3319E-01 CRITERION= .2746 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 23 COMPLETED. CUM ITER = 248
 *** TIME = .207492E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4518E-05 OSCILLATION LIMIT = .3564
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.98 CRITERION= .2749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3339E-01 CRITERION= .2744 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 10 SUBSTEP 24 COMPLETED. CUM ITER = 249
 *** TIME = .208280E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4538E-05 OSCILLATION LIMIT = .3581

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.48 CRITERION= .2748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5148E-01
 HT FLOW CONVERGENCE VALUE= .3321E-01 CRITERION= .2745 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 25 COMPLETED. CUM ITER = 250
 *** TIME = .209069E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4506E-05 OSCILLATION LIMIT = .3555
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.99 CRITERION= .2749
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3342E-01 CRITERION= .2743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 26 COMPLETED. CUM ITER = 251
 *** TIME = .209858E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4526E-05 OSCILLATION LIMIT = .3570
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.48 CRITERION= .2747
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5147E-01
 HT FLOW CONVERGENCE VALUE= .3322E-01 CRITERION= .2745 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 27 COMPLETED. CUM ITER = 252
 *** TIME = .210647E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4495E-05 OSCILLATION LIMIT = .3546
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.99 CRITERION= .2748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3345E-01 CRITERION= .2743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 28 COMPLETED. CUM ITER = 253
 *** TIME = .211436E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4513E-05 OSCILLATION LIMIT = .3561
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.47 CRITERION= .2746
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5146E-01
 HT FLOW CONVERGENCE VALUE= .3326E-01 CRITERION= .2744 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 29 COMPLETED. CUM ITER = 254
 *** TIME = .212225E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4484E-05 OSCILLATION LIMIT = .3538
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.99 CRITERION= .2748
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3347E-01 CRITERION= .2742 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 30 COMPLETED. CUM ITER = 255
 *** TIME = .213014E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4501E-05 OSCILLATION LIMIT = .3551
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 14.47 CRITERION= .2746
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5146E-01
 HT FLOW CONVERGENCE VALUE= .3324E-01 CRITERION= .2743 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 31 COMPLETED. CUM ITER = 256
 *** TIME = .213803E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4473E-05 OSCILLATION LIMIT = .3529
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.99 CRITERION= .2747
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
 HT FLOW CONVERGENCE VALUE= .3346E-01 CRITERION= .2741 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 10 SUBSTEP 32 COMPLETED. CUM ITER = 257

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*** TIME = .214592E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4489E-05    OSCILLATION LIMIT = .3542
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.47    CRITERION= .2745
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5145E-01
    HT FLOW CONVERGENCE VALUE= .3323E-01    CRITERION= .2743    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 33 COMPLETED.    CUM ITER = 258
*** TIME = .215381E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4462E-05    OSCILLATION LIMIT = .3521
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.99    CRITERION= .2746
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
    HT FLOW CONVERGENCE VALUE= .3346E-01    CRITERION= .2741    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 34 COMPLETED.    CUM ITER = 259
*** TIME = .216170E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4477E-05    OSCILLATION LIMIT = .3532
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.47    CRITERION= .2745
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5144E-01
    HT FLOW CONVERGENCE VALUE= .3322E-01    CRITERION= .2742    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 35 COMPLETED.    CUM ITER = 260
*** TIME = .216959E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4452E-05    OSCILLATION LIMIT = .3512
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.99    CRITERION= .2746
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
    HT FLOW CONVERGENCE VALUE= .3345E-01    CRITERION= .2740    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 36 COMPLETED.    CUM ITER = 261
*** TIME = .217748E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4466E-05    OSCILLATION LIMIT = .3524
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.47    CRITERION= .2744
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5144E-01
    HT FLOW CONVERGENCE VALUE= .3321E-01    CRITERION= .2741    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 37 COMPLETED.    CUM ITER = 262
*** TIME = .218537E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4442E-05    OSCILLATION LIMIT = .3504
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.00    CRITERION= .2745
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
    HT FLOW CONVERGENCE VALUE= .3344E-01    CRITERION= .2740    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 38 COMPLETED.    CUM ITER = 263
*** TIME = .219326E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4456E-05    OSCILLATION LIMIT = .3515
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.47    CRITERION= .2743
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5143E-01
    HT FLOW CONVERGENCE VALUE= .3320E-01    CRITERION= .2741    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 39 COMPLETED.    CUM ITER = 264
*** TIME = .220115E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4432E-05    OSCILLATION LIMIT = .3497
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 14.00    CRITERION= .2745
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .5102E-01
    HT FLOW CONVERGENCE VALUE= .3342E-01    CRITERION= .2739    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 10 SUBSTEP 40 COMPLETED. CUM ITER = 265
*** TIME = .220904E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4446E-05 OSCILLATION LIMIT = .3507

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 13:43:01 JUN 12, 1995 CP= 12962.890
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 12.53 CRITERION= .2742
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4432E-01
HT FLOW CONVERGENCE VALUE= .2868E-01 CRITERION= .2740 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 1 COMPLETED. CUM ITER = 266
*** TIME = .221692E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .4668E-05 OSCILLATION LIMIT = .3683
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.05 CRITERION= .2743
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2855E-01 CRITERION= .2739 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 2 COMPLETED. CUM ITER = 267
*** TIME = .222481E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5456E-05 OSCILLATION LIMIT = .4304
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.52 CRITERION= .2741
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4429E-01
HT FLOW CONVERGENCE VALUE= .2856E-01 CRITERION= .2740 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 3 COMPLETED. CUM ITER = 268
*** TIME = .223270E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5189E-05 OSCILLATION LIMIT = .4094
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.05 CRITERION= .2743
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2738 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 4 COMPLETED. CUM ITER = 269
*** TIME = .224059E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5258E-05 OSCILLATION LIMIT = .4148
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.52 CRITERION= .2741
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4428E-01
HT FLOW CONVERGENCE VALUE= .2854E-01 CRITERION= .2739 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 5 COMPLETED. CUM ITER = 270
*** TIME = .224848E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5162E-05 OSCILLATION LIMIT = .4073
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.05 CRITERION= .2742
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2862E-01 CRITERION= .2737 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 6 COMPLETED. CUM ITER = 271
*** TIME = .225637E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5221E-05 OSCILLATION LIMIT = .4119
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.52 CRITERION= .2740

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4427E-01
HT FLOW CONVERGENCE VALUE= .2850E-01 CRITERION= .2739 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 7 COMPLETED. CUM ITER = 272
*** TIME = .226426E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5163E-05 OSCILLATION LIMIT = .4073
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.06 CRITERION= .2741
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2737 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 8 COMPLETED. CUM ITER = 273
*** TIME = .227215E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5198E-05 OSCILLATION LIMIT = .4101
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.52 CRITERION= .2740
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4426E-01
HT FLOW CONVERGENCE VALUE= .2849E-01 CRITERION= .2738 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 9 COMPLETED. CUM ITER = 274
*** TIME = .228004E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5154E-05 OSCILLATION LIMIT = .4066
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.06 CRITERION= .2741
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2736 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 10 COMPLETED. CUM ITER = 275
*** TIME = .228793E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5180E-05 OSCILLATION LIMIT = .4087
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.52 CRITERION= .2739
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4426E-01
HT FLOW CONVERGENCE VALUE= .2847E-01 CRITERION= .2738 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 11 COMPLETED. CUM ITER = 276
*** TIME = .229582E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5143E-05 OSCILLATION LIMIT = .4057
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.06 CRITERION= .2740
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2736 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 12 COMPLETED. CUM ITER = 277
*** TIME = .230371E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5165E-05 OSCILLATION LIMIT = .4075
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.52 CRITERION= .2739
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4425E-01
HT FLOW CONVERGENCE VALUE= .2846E-01 CRITERION= .2737 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 13 COMPLETED. CUM ITER = 278
*** TIME = .231160E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5131E-05 OSCILLATION LIMIT = .4048
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.06 CRITERION= .2740
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2735 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 14 COMPLETED. CUM ITER = 279
*** TIME = .231949E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5151E-05 OSCILLATION LIMIT = .4063
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 12.51      CRITERION= .2738
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4424E-01
HT FLOW CONVERGENCE VALUE= .2845E-01 CRITERION= .2736    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 15 COMPLETED. CUM ITER = 280
*** TIME = .232738E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5120E-05 OSCILLATION LIMIT = .4039
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.06      CRITERION= .2739
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2735    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 16 COMPLETED. CUM ITER = 281
*** TIME = .233527E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5137E-05 OSCILLATION LIMIT = .4053
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.51      CRITERION= .2737
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4423E-01
HT FLOW CONVERGENCE VALUE= .2844E-01 CRITERION= .2736    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 17 COMPLETED. CUM ITER = 282
*** TIME = .234315E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5108E-05 OSCILLATION LIMIT = .4030
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.06      CRITERION= .2738
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2734    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 18 COMPLETED. CUM ITER = 283
*** TIME = .235104E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5124E-05 OSCILLATION LIMIT = .4043
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.51      CRITERION= .2737
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4423E-01
HT FLOW CONVERGENCE VALUE= .2843E-01 CRITERION= .2735    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 19 COMPLETED. CUM ITER = 284
*** TIME = .235893E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5096E-05 OSCILLATION LIMIT = .4021
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.06      CRITERION= .2738
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2733    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 20 COMPLETED. CUM ITER = 285
*** TIME = .236682E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5111E-05 OSCILLATION LIMIT = .4032
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.51      CRITERION= .2736
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4422E-01
HT FLOW CONVERGENCE VALUE= .2842E-01 CRITERION= .2735    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 21 COMPLETED. CUM ITER = 286
*** TIME = .237471E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5085E-05 OSCILLATION LIMIT = .4012
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.07      CRITERION= .2737
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2860E-01 CRITERION= .2733    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 22 COMPLETED. CUM ITER = 287
*** TIME = .238260E+08 TIME INC = 78894.0

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*** RESPONSE EIGENVALUE = .5098E-05  OSCILLATION LIMIT = .4022
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.51  CRITERION= .2736
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4421E-01
HT FLOW CONVERGENCE VALUE= .2841E-01 CRITERION= .2734  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 23 COMPLETED.  CUM ITER = 288
*** TIME = .239049E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5073E-05  OSCILLATION LIMIT = .4003
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.07  CRITERION= .2737
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2861E-01 CRITERION= .2732  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 24 COMPLETED.  CUM ITER = 289
*** TIME = .239838E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5086E-05  OSCILLATION LIMIT = .4012
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.51  CRITERION= .2735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4421E-01
HT FLOW CONVERGENCE VALUE= .2840E-01 CRITERION= .2733  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 25 COMPLETED.  CUM ITER = 290
*** TIME = .240627E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5063E-05  OSCILLATION LIMIT = .3994
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.07  CRITERION= .2736
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2860E-01 CRITERION= .2732  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 26 COMPLETED.  CUM ITER = 291
*** TIME = .241416E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5074E-05  OSCILLATION LIMIT = .4003
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.51  CRITERION= .2735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4420E-01
HT FLOW CONVERGENCE VALUE= .2839E-01 CRITERION= .2733  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 27 COMPLETED.  CUM ITER = 292
*** TIME = .242205E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5052E-05  OSCILLATION LIMIT = .3986
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.07  CRITERION= .2735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2859E-01 CRITERION= .2731  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 28 COMPLETED.  CUM ITER = 293
*** TIME = .242994E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5063E-05  OSCILLATION LIMIT = .3994
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.50  CRITERION= .2734
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4419E-01
HT FLOW CONVERGENCE VALUE= .2838E-01 CRITERION= .2732  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 11 SUBSTEP 29 COMPLETED.  CUM ITER = 294
*** TIME = .243783E+08  TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5042E-05  OSCILLATION LIMIT = .3978
*** AUTO STEP TIME: NEXT TIME INC = 78894.  UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.07  CRITERION= .2735
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .2731  <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 11 SUBSTEP 30 COMPLETED. CUM ITER = 295
 *** TIME = .244572E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5052E-05 OSCILLATION LIMIT = .3986
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.50 CRITERION= .2733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4419E-01
 HT FLOW CONVERGENCE VALUE= .2837E-01 CRITERION= .2732 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 31 COMPLETED. CUM ITER = 296
 *** TIME = .245361E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5032E-05 OSCILLATION LIMIT = .3970
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.07 CRITERION= .2734
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
 HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .2730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 32 COMPLETED. CUM ITER = 297
 *** TIME = .246150E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5041E-05 OSCILLATION LIMIT = .3977
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.50 CRITERION= .2733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4418E-01
 HT FLOW CONVERGENCE VALUE= .2836E-01 CRITERION= .2731 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 33 COMPLETED. CUM ITER = 298
 *** TIME = .246939E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5022E-05 OSCILLATION LIMIT = .3962
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.07 CRITERION= .2734
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
 HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .2729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 34 COMPLETED. CUM ITER = 299
 *** TIME = .247727E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5031E-05 OSCILLATION LIMIT = .3969
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.50 CRITERION= .2732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4418E-01
 HT FLOW CONVERGENCE VALUE= .2835E-01 CRITERION= .2730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 35 COMPLETED. CUM ITER = 300
 *** TIME = .248516E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5013E-05 OSCILLATION LIMIT = .3955
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.08 CRITERION= .2733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
 HT FLOW CONVERGENCE VALUE= .2857E-01 CRITERION= .2729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 36 COMPLETED. CUM ITER = 301
 *** TIME = .249305E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5020E-05 OSCILLATION LIMIT = .3961
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.50 CRITERION= .2732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4417E-01
 HT FLOW CONVERGENCE VALUE= .2834E-01 CRITERION= .2730 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 11 SUBSTEP 37 COMPLETED. CUM ITER = 302
 *** TIME = .250094E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5003E-05 OSCILLATION LIMIT = .3947
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.08 CRITERION= .2733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01

HT FLOW CONVERGENCE VALUE= .2856E-01 CRITERION= .2728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 38 COMPLETED. CUM ITER = 303
 *** TIME = .250883E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5010E-05 OSCILLATION LIMIT = .3952
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.50 CRITERION= .2731
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4417E-01
 HT FLOW CONVERGENCE VALUE= .2834E-01 CRITERION= .2729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 39 COMPLETED. CUM ITER = 304
 *** TIME = .251672E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4993E-05 OSCILLATION LIMIT = .3939
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.08 CRITERION= .2732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4381E-01
 HT FLOW CONVERGENCE VALUE= .2856E-01 CRITERION= .2728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 11 SUBSTEP 40 COMPLETED. CUM ITER = 305
 *** TIME = .252461E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .4999E-05 OSCILLATION LIMIT = .3944

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:17:13 JUN 12, 1995 CP= 14988.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 11.33 CRITERION= .2730
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4011E-01
 HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .2729 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 1 COMPLETED. CUM ITER = 306
 *** TIME = .253250E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5198E-05 OSCILLATION LIMIT = .4101
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .2731
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .2727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 2 COMPLETED. CUM ITER = 307
 *** TIME = .254039E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5746E-05 OSCILLATION LIMIT = .4533
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33 CRITERION= .2729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4010E-01
 HT FLOW CONVERGENCE VALUE= .2558E-01 CRITERION= .2728 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 3 COMPLETED. CUM ITER = 308
 *** TIME = .254828E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5566E-05 OSCILLATION LIMIT = .4391
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .2730
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .2727 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 4 COMPLETED. CUM ITER = 309
 *** TIME = .255617E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5608E-05 OSCILLATION LIMIT = .4425
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.33      CRITERION= .2729
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4009E-01
HT FLOW CONVERGENCE VALUE= .2557E-01 CRITERION= .2728    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 5 COMPLETED. CUM ITER = 310
*** TIME = .256406E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5545E-05 OSCILLATION LIMIT = .4375
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2730
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .2726    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 6 COMPLETED. CUM ITER = 311
*** TIME = .257195E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5581E-05 OSCILLATION LIMIT = .4403
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33      CRITERION= .2728
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4008E-01
HT FLOW CONVERGENCE VALUE= .2556E-01 CRITERION= .2727    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 7 COMPLETED. CUM ITER = 312
*** TIME = .257984E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5544E-05 OSCILLATION LIMIT = .4374
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2729
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
HT FLOW CONVERGENCE VALUE= .2571E-01 CRITERION= .2725    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 8 COMPLETED. CUM ITER = 313
*** TIME = .258773E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5564E-05 OSCILLATION LIMIT = .4390
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33      CRITERION= .2728
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4008E-01
HT FLOW CONVERGENCE VALUE= .2555E-01 CRITERION= .2726    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 9 COMPLETED. CUM ITER = 314
*** TIME = .259562E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5536E-05 OSCILLATION LIMIT = .4368
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2729
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
HT FLOW CONVERGENCE VALUE= .2571E-01 CRITERION= .2725    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 10 COMPLETED. CUM ITER = 315
*** TIME = .260351E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5550E-05 OSCILLATION LIMIT = .4379
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.33      CRITERION= .2727
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4007E-01
HT FLOW CONVERGENCE VALUE= .2554E-01 CRITERION= .2726    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 11 COMPLETED. CUM ITER = 316
*** TIME = .261139E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5527E-05 OSCILLATION LIMIT = .4360
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2728
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .2724    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 12 COMPLETED. CUM ITER = 317
*** TIME = .261928E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5538E-05 OSCILLATION LIMIT = .4369

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*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.33      CRITERION= .2727
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4007E-01
  HT FLOW CONVERGENCE VALUE= .2553E-01 CRITERION= .2725      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 13 COMPLETED. CUM ITER = 318
*** TIME = .262717E+08      TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5517E-05      OSCILLATION LIMIT = .4352
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2727
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
  HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .2724      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 14 COMPLETED. CUM ITER = 319
*** TIME = .263506E+08      TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5526E-05      OSCILLATION LIMIT = .4359
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.32      CRITERION= .2726
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4006E-01
  HT FLOW CONVERGENCE VALUE= .2552E-01 CRITERION= .2725      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 15 COMPLETED. CUM ITER = 320
*** TIME = .264295E+08      TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5506E-05      OSCILLATION LIMIT = .4344
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2727
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
  HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .2723      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 16 COMPLETED. CUM ITER = 321
*** TIME = .265084E+08      TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5514E-05      OSCILLATION LIMIT = .4350
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.32      CRITERION= .2725
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4006E-01
  HT FLOW CONVERGENCE VALUE= .2551E-01 CRITERION= .2724      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 17 COMPLETED. CUM ITER = 322
*** TIME = .265873E+08      TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5496E-05      OSCILLATION LIMIT = .4336
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2726
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
  HT FLOW CONVERGENCE VALUE= .2570E-01 CRITERION= .2723      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 18 COMPLETED. CUM ITER = 323
*** TIME = .266662E+08      TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5503E-05      OSCILLATION LIMIT = .4341
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 11.32      CRITERION= .2725
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4005E-01
  HT FLOW CONVERGENCE VALUE= .2550E-01 CRITERION= .2724      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 19 COMPLETED. CUM ITER = 324
*** TIME = .267451E+08      TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5486E-05      OSCILLATION LIMIT = .4328
*** AUTO STEP TIME: NEXT TIME INC = 78894.      UNCHANGED

  HT FLOW CONVERGENCE VALUE= 10.92      CRITERION= .2726
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
  HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .2722      <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 20 COMPLETED. CUM ITER = 325

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*** TIME = .268240E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5491E-05 OSCILLATION LIMIT = .4332
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4005E-01
 HT FLOW CONVERGENCE VALUE= .2550E-01 CRITERION= .2723 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 21 COMPLETED. CUM ITER = 326
 *** TIME = .269029E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5476E-05 OSCILLATION LIMIT = .4320
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2569E-01 CRITERION= .2721 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 22 COMPLETED. CUM ITER = 327
 *** TIME = .269818E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5480E-05 OSCILLATION LIMIT = .4324
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4004E-01
 HT FLOW CONVERGENCE VALUE= .2549E-01 CRITERION= .2722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 23 COMPLETED. CUM ITER = 328
 *** TIME = .270607E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5466E-05 OSCILLATION LIMIT = .4312
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2725
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .2721 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 24 COMPLETED. CUM ITER = 329
 *** TIME = .271396E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5470E-05 OSCILLATION LIMIT = .4315
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4004E-01
 HT FLOW CONVERGENCE VALUE= .2548E-01 CRITERION= .2722 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 25 COMPLETED. CUM ITER = 330
 *** TIME = .272185E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5456E-05 OSCILLATION LIMIT = .4304
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2568E-01 CRITERION= .2720 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 26 COMPLETED. CUM ITER = 331
 *** TIME = .272974E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5459E-05 OSCILLATION LIMIT = .4307
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4003E-01
 HT FLOW CONVERGENCE VALUE= .2547E-01 CRITERION= .2721 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 12 SUBSTEP 27 COMPLETED. CUM ITER = 332
 *** TIME = .273762E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5446E-05 OSCILLATION LIMIT = .4297
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2567E-01 CRITERION= .2720 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 28 COMPLETED. CUM ITER = 333
*** TIME = .274551E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5449E-05 OSCILLATION LIMIT = .4299
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.32 CRITERION= .2722
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4003E-01
HT FLOW CONVERGENCE VALUE= .2546E-01 CRITERION= .2721 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 29 COMPLETED. CUM ITER = 334
*** TIME = .275340E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5437E-05 OSCILLATION LIMIT = .4290
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2723
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .2719 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 30 COMPLETED. CUM ITER = 335
*** TIME = .276129E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5439E-05 OSCILLATION LIMIT = .4291
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2721
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4003E-01
HT FLOW CONVERGENCE VALUE= .2546E-01 CRITERION= .2720 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 31 COMPLETED. CUM ITER = 336
*** TIME = .276918E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5428E-05 OSCILLATION LIMIT = .4282
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2722
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
HT FLOW CONVERGENCE VALUE= .2565E-01 CRITERION= .2719 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 32 COMPLETED. CUM ITER = 337
*** TIME = .277707E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5429E-05 OSCILLATION LIMIT = .4283
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2721
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4002E-01
HT FLOW CONVERGENCE VALUE= .2544E-01 CRITERION= .2719 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 33 COMPLETED. CUM ITER = 338
*** TIME = .278496E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5419E-05 OSCILLATION LIMIT = .4275
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2722
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
HT FLOW CONVERGENCE VALUE= .2564E-01 CRITERION= .2718 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 34 COMPLETED. CUM ITER = 339
*** TIME = .279285E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5420E-05 OSCILLATION LIMIT = .4276
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2720
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4002E-01
HT FLOW CONVERGENCE VALUE= .2543E-01 CRITERION= .2719 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 12 SUBSTEP 35 COMPLETED. CUM ITER = 340
*** TIME = .280074E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5410E-05 OSCILLATION LIMIT = .4268
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.93 CRITERION= .2721

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2563E-01 CRITERION= .2717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 36 COMPLETED. CUM ITER = 341
 *** TIME = .280863E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5411E-05 OSCILLATION LIMIT = .4269
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4001E-01
 HT FLOW CONVERGENCE VALUE= .2541E-01 CRITERION= .2718 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 37 COMPLETED. CUM ITER = 342
 *** TIME = .281652E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5401E-05 OSCILLATION LIMIT = .4261
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.94 CRITERION= .2721
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2561E-01 CRITERION= .2717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 38 COMPLETED. CUM ITER = 343
 *** TIME = .282441E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5401E-05 OSCILLATION LIMIT = .4261
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.31 CRITERION= .2719
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4001E-01
 HT FLOW CONVERGENCE VALUE= .2540E-01 CRITERION= .2718 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 39 COMPLETED. CUM ITER = 344
 *** TIME = .283230E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5393E-05 OSCILLATION LIMIT = .4255
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.94 CRITERION= .2720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3968E-01
 HT FLOW CONVERGENCE VALUE= .2561E-01 CRITERION= .2716 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 12 SUBSTEP 40 COMPLETED. CUM ITER = 345
 *** TIME = .284019E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5393E-05 OSCILLATION LIMIT = .4255
 Apply loads and solve for 1 to 9 years

*DO LOOP ON PARAMETER= TM FROM .31558E+08 TO .28402E+09 BY .31558E+08
 TIME= .31558E+08

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 5654.64534 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 123.63 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 124.68 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 127.28 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 17010.150 TIME= 14:51:11
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 14:51:11 JUN 12, 1995 CP= 17010.150
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 13
 TIME AT END OF THE LOAD STEP.31558E+08
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10
 MAXIMUM NUMBER OF SUBSTEPS 40
 MINIMUM NUMBER OF SUBSTEPS 5
 START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
 MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
 STEP CHANGE BOUNDARY CONDITIONS NO
 TRANSIENT (INERTIA) EFFECTS
 THERMAL DOFS ON
 TRANSIENT INTEGRATION PARAMETERS
 THETA.50000
 OSCILLATION LIMIT CRITERION.50000
 TOLERANCE.20000
 TERMINATE ANALYSIS IF NOT CONVERGEDYES (EXIT)
 CONVERGENCE CONTROLS.USE DEFAULTS
 PRINT OUTPUT CONTROLSNO PRINTOUT
 DATABASE OUTPUT CONTROLS.ALL DATA WRITTEN
 FOR THE LAST SUBSTEP

HT FLOW CONVERGENCE VALUE= 10.50 CRITERION= .2718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3714E-01
 HT FLOW CONVERGENCE VALUE= .2355E-01 CRITERION= .2717 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 1 COMPLETED. CUM ITER = 346
 *** TIME = .284808E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5564E-05 OSCILLATION LIMIT = .4390
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .2719
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
 HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .2716 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 2 COMPLETED. CUM ITER = 347
 *** TIME = .285597E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5978E-05 OSCILLATION LIMIT = .4716

*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.50 CRITERION= .2718
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3713E-01
HT FLOW CONVERGENCE VALUE= .2350E-01 CRITERION= .2717 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 3 COMPLETED. CUM ITER = 348
*** TIME = .286386E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5843E-05 OSCILLATION LIMIT = .4610
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.12 CRITERION= .2719
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2362E-01 CRITERION= .2715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 4 COMPLETED. CUM ITER = 349
*** TIME = .287174E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5870E-05 OSCILLATION LIMIT = .4631
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.50 CRITERION= .2717
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3713E-01
HT FLOW CONVERGENCE VALUE= .2347E-01 CRITERION= .2716 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 5 COMPLETED. CUM ITER = 350
*** TIME = .287963E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5827E-05 OSCILLATION LIMIT = .4597
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2718
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .2715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 6 COMPLETED. CUM ITER = 351
*** TIME = .288752E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5849E-05 OSCILLATION LIMIT = .4614
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.49 CRITERION= .2717
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2346E-01 CRITERION= .2715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 7 COMPLETED. CUM ITER = 352
*** TIME = .289541E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5824E-05 OSCILLATION LIMIT = .4595
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2717
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .2714 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 8 COMPLETED. CUM ITER = 353
*** TIME = .290330E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5834E-05 OSCILLATION LIMIT = .4603
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.49 CRITERION= .2716
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
HT FLOW CONVERGENCE VALUE= .2345E-01 CRITERION= .2715 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 9 COMPLETED. CUM ITER = 354
*** TIME = .291119E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5817E-05 OSCILLATION LIMIT = .4589
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2717
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2361E-01 CRITERION= .2714 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 13 SUBSTEP 10 COMPLETED. CUM ITER = 355

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*** TIME = .291908E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5822E-05    OSCILLATION LIMIT = .4593
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.49    CRITERION= .2716
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3712E-01
    HT FLOW CONVERGENCE VALUE= .2344E-01 CRITERION= .2714    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 11 COMPLETED.    CUM ITER = 356
*** TIME = .292697E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5808E-05    OSCILLATION LIMIT = .4582
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.13    CRITERION= .2716
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
    HT FLOW CONVERGENCE VALUE= .2360E-01 CRITERION= .2713    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 12 COMPLETED.    CUM ITER = 357
*** TIME = .293486E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5811E-05    OSCILLATION LIMIT = .4585
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.49    CRITERION= .2715
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3711E-01
    HT FLOW CONVERGENCE VALUE= .2343E-01 CRITERION= .2714    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 13 COMPLETED.    CUM ITER = 358
*** TIME = .294275E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5799E-05    OSCILLATION LIMIT = .4575
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.13    CRITERION= .2716
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
    HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .2712    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 14 COMPLETED.    CUM ITER = 359
*** TIME = .295064E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5801E-05    OSCILLATION LIMIT = .4577
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.49    CRITERION= .2714
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3711E-01
    HT FLOW CONVERGENCE VALUE= .2343E-01 CRITERION= .2713    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 15 COMPLETED.    CUM ITER = 360
*** TIME = .295853E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5790E-05    OSCILLATION LIMIT = .4568
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.13    CRITERION= .2715
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
    HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .2712    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 16 COMPLETED.    CUM ITER = 361
*** TIME = .296642E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5791E-05    OSCILLATION LIMIT = .4569
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.49    CRITERION= .2714
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3710E-01
    HT FLOW CONVERGENCE VALUE= .2342E-01 CRITERION= .2713    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 17 COMPLETED.    CUM ITER = 362
*** TIME = .297431E+08    TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5782E-05    OSCILLATION LIMIT = .4561
*** AUTO STEP TIME: NEXT TIME INC = 78894.    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 10.13    CRITERION= .2715
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
    HT FLOW CONVERGENCE VALUE= .2360E-01 CRITERION= .2711    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 18 COMPLETED. CUM ITER = 363
*** TIME = .298220E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5781E-05 OSCILLATION LIMIT = .4561
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.49 CRITERION= .2713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3710E-01
HT FLOW CONVERGENCE VALUE= .2342E-01 CRITERION= .2712 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 19 COMPLETED. CUM ITER = 364
*** TIME = .299009E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5772E-05 OSCILLATION LIMIT = .4554
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2714
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .2711 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 20 COMPLETED. CUM ITER = 365
*** TIME = .299798E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5771E-05 OSCILLATION LIMIT = .4553
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.49 CRITERION= .2713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3710E-01
HT FLOW CONVERGENCE VALUE= .2341E-01 CRITERION= .2711 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 21 COMPLETED. CUM ITER = 366
*** TIME = .300586E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5763E-05 OSCILLATION LIMIT = .4547
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.13 CRITERION= .2713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .2710 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 22 COMPLETED. CUM ITER = 367
*** TIME = .301375E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5762E-05 OSCILLATION LIMIT = .4546
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.49 CRITERION= .2712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3709E-01
HT FLOW CONVERGENCE VALUE= .2342E-01 CRITERION= .2711 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 23 COMPLETED. CUM ITER = 368
*** TIME = .302164E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5754E-05 OSCILLATION LIMIT = .4540
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2359E-01 CRITERION= .2710 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 24 COMPLETED. CUM ITER = 369
*** TIME = .302953E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5752E-05 OSCILLATION LIMIT = .4538
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3709E-01
HT FLOW CONVERGENCE VALUE= .2341E-01 CRITERION= .2710 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 25 COMPLETED. CUM ITER = 370
*** TIME = .303742E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5745E-05 OSCILLATION LIMIT = .4532
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2712

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2358E-01 CRITERION= .2709 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 26 COMPLETED. CUM ITER = 371
*** TIME = .304531E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5742E-05 OSCILLATION LIMIT = .4530
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2711
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3709E-01
HT FLOW CONVERGENCE VALUE= .2340E-01 CRITERION= .2710 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 27 COMPLETED. CUM ITER = 372
*** TIME = .305320E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5736E-05 OSCILLATION LIMIT = .4525
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2712
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2358E-01 CRITERION= .2708 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 28 COMPLETED. CUM ITER = 373
*** TIME = .306109E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5733E-05 OSCILLATION LIMIT = .4523
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2710
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3708E-01
HT FLOW CONVERGENCE VALUE= .2340E-01 CRITERION= .2709 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 29 COMPLETED. CUM ITER = 374
*** TIME = .306898E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5727E-05 OSCILLATION LIMIT = .4518
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2711
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2358E-01 CRITERION= .2708 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 30 COMPLETED. CUM ITER = 375
*** TIME = .307687E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5723E-05 OSCILLATION LIMIT = .4515
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2710
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3708E-01
HT FLOW CONVERGENCE VALUE= .2339E-01 CRITERION= .2709 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 31 COMPLETED. CUM ITER = 376
*** TIME = .308476E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5718E-05 OSCILLATION LIMIT = .4511
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2711
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
HT FLOW CONVERGENCE VALUE= .2357E-01 CRITERION= .2707 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 32 COMPLETED. CUM ITER = 377
*** TIME = .309265E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5714E-05 OSCILLATION LIMIT = .4508
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2709
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3708E-01
HT FLOW CONVERGENCE VALUE= .2338E-01 CRITERION= .2708 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 13 SUBSTEP 33 COMPLETED. CUM ITER = 378
*** TIME = .310054E+08 TIME INC = 78894.0
*** RESPONSE EIGENVALUE = .5710E-05 OSCILLATION LIMIT = .4505
*** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

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HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2710
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
 HT FLOW CONVERGENCE VALUE= .2356E-01 CRITERION= .2707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 34 COMPLETED. CUM ITER = 379
 *** TIME = .310843E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5706E-05 OSCILLATION LIMIT = .4501
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3707E-01
 HT FLOW CONVERGENCE VALUE= .2338E-01 CRITERION= .2707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 35 COMPLETED. CUM ITER = 380
 *** TIME = .311632E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5702E-05 OSCILLATION LIMIT = .4498
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
 HT FLOW CONVERGENCE VALUE= .2356E-01 CRITERION= .2706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 36 COMPLETED. CUM ITER = 381
 *** TIME = .312421E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5698E-05 OSCILLATION LIMIT = .4495
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3707E-01
 HT FLOW CONVERGENCE VALUE= .2338E-01 CRITERION= .2707 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 37 COMPLETED. CUM ITER = 382
 *** TIME = .313209E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5694E-05 OSCILLATION LIMIT = .4492
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2709
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
 HT FLOW CONVERGENCE VALUE= .2356E-01 CRITERION= .2706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 38 COMPLETED. CUM ITER = 383
 *** TIME = .313998E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5689E-05 OSCILLATION LIMIT = .4489
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.48 CRITERION= .2708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3707E-01
 HT FLOW CONVERGENCE VALUE= .2337E-01 CRITERION= .2706 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 39 COMPLETED. CUM ITER = 384
 *** TIME = .314787E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5686E-05 OSCILLATION LIMIT = .4486
 *** AUTO STEP TIME: NEXT TIME INC = 78894. UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.14 CRITERION= .2708
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3683E-01
 HT FLOW CONVERGENCE VALUE= .2355E-01 CRITERION= .2705 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 13 SUBSTEP 40 COMPLETED. CUM ITER = 385
 *** TIME = .315576E+08 TIME INC = 78894.0
 *** RESPONSE EIGENVALUE = .5681E-05 OSCILLATION LIMIT = .4482

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 15:25:24 JUN 12, 1995 CP= 19034.410

FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2803
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1706 CRITERION= .2704 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 1 COMPLETED. CUM ITER = 386
 *** TIME = .323466E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .3846E-05 OSCILLATION LIMIT = 3.034
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2801
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1659 CRITERION= .2701 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 2 COMPLETED. CUM ITER = 387
 *** TIME = .331355E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6645E-05 OSCILLATION LIMIT = 5.242
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2799
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1652 CRITERION= .2700 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 3 COMPLETED. CUM ITER = 388
 *** TIME = .339245E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6878E-05 OSCILLATION LIMIT = 5.426
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2797
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1653 CRITERION= .2696 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 4 COMPLETED. CUM ITER = 389
 *** TIME = .347134E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6207E-05 OSCILLATION LIMIT = 4.897
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2794
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1649 CRITERION= .2695 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 5 COMPLETED. CUM ITER = 390
 *** TIME = .355023E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6705E-05 OSCILLATION LIMIT = 5.289
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2792
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1648 CRITERION= .2691 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 6 COMPLETED. CUM ITER = 391
 *** TIME = .362913E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6343E-05 OSCILLATION LIMIT = 5.005
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2789
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1646 CRITERION= .2690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 7 COMPLETED. CUM ITER = 392
 *** TIME = .370802E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6572E-05 OSCILLATION LIMIT = 5.185
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2788
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631

HT FLOW CONVERGENCE VALUE= .1644 CRITERION= .2686 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 8 COMPLETED. CUM ITER = 393
 *** TIME = .378692E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6402E-05 OSCILLATION LIMIT = 5.050
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2785
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1642 CRITERION= .2685 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 9 COMPLETED. CUM ITER = 394
 *** TIME = .386581E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6500E-05 OSCILLATION LIMIT = 5.128
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2783
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1640 CRITERION= .2682 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 10 COMPLETED. CUM ITER = 395
 *** TIME = .394470E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6420E-05 OSCILLATION LIMIT = 5.065
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2780
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1639 CRITERION= .2680 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 11 COMPLETED. CUM ITER = 396
 *** TIME = .402360E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6457E-05 OSCILLATION LIMIT = 5.094
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2778
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1636 CRITERION= .2677 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 12 COMPLETED. CUM ITER = 397
 *** TIME = .410249E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6419E-05 OSCILLATION LIMIT = 5.064
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2775
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1635 CRITERION= .2675 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 13 COMPLETED. CUM ITER = 398
 *** TIME = .418139E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6427E-05 OSCILLATION LIMIT = 5.070
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1633 CRITERION= .2672 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 14 COMPLETED. CUM ITER = 399
 *** TIME = .426028E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6409E-05 OSCILLATION LIMIT = 5.056
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2771
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1631 CRITERION= .2671 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 15 COMPLETED. CUM ITER = 400
 *** TIME = .433917E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6404E-05 OSCILLATION LIMIT = 5.052
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2769
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1629 CRITERION= .2667 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 16 COMPLETED. CUM ITER = 401
 *** TIME = .441807E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6394E-05 OSCILLATION LIMIT = 5.045
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2766
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1629 CRITERION= .2666 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 17 COMPLETED. CUM ITER = 402
 *** TIME = .449696E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6383E-05 OSCILLATION LIMIT = 5.036
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2764
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1627 CRITERION= .2662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 18 COMPLETED. CUM ITER = 403
 *** TIME = .457586E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6377E-05 OSCILLATION LIMIT = 5.031
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2761
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1626 CRITERION= .2661 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 19 COMPLETED. CUM ITER = 404
 *** TIME = .465475E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6362E-05 OSCILLATION LIMIT = 5.020
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2760
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1622 CRITERION= .2657 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 20 COMPLETED. CUM ITER = 405
 *** TIME = .473364E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6359E-05 OSCILLATION LIMIT = 5.017
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2757
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1621 CRITERION= .2656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 21 COMPLETED. CUM ITER = 406
 *** TIME = .481254E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6344E-05 OSCILLATION LIMIT = 5.005
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2755
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1619 CRITERION= .2653 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 22 COMPLETED. CUM ITER = 407
 *** TIME = .489143E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6341E-05 OSCILLATION LIMIT = 5.003
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2752
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1617 CRITERION= .2651 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 23 COMPLETED. CUM ITER = 408
 *** TIME = .497033E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6326E-05 OSCILLATION LIMIT = 4.991

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2750
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1614 CRITERION= .2648 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 24 COMPLETED. CUM ITER = 409
*** TIME = .504922E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6323E-05 OSCILLATION LIMIT = 4.988
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2747
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1613 CRITERION= .2646 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 25 COMPLETED. CUM ITER = 410
*** TIME = .512811E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6307E-05 OSCILLATION LIMIT = 4.976
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2746
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1611 CRITERION= .2643 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 26 COMPLETED. CUM ITER = 411
*** TIME = .520701E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6305E-05 OSCILLATION LIMIT = 4.974
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2743
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1610 CRITERION= .2642 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 27 COMPLETED. CUM ITER = 412
*** TIME = .528590E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6291E-05 OSCILLATION LIMIT = 4.963
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2741
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1608 CRITERION= .2638 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 28 COMPLETED. CUM ITER = 413
*** TIME = .536480E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6287E-05 OSCILLATION LIMIT = 4.960
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2738
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1607 CRITERION= .2637 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 29 COMPLETED. CUM ITER = 414
*** TIME = .544369E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6272E-05 OSCILLATION LIMIT = 4.948
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2736
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1604 CRITERION= .2633 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 30 COMPLETED. CUM ITER = 415
*** TIME = .552258E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6268E-05 OSCILLATION LIMIT = 4.945
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2734
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1602 CRITERION= .2632 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 31 COMPLETED. CUM ITER = 416

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*** TIME = .560148E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6255E-05 OSCILLATION LIMIT = 4.935
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2732
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1600 CRITERION= .2628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 32 COMPLETED. CUM ITER = 417
 *** TIME = .568037E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6253E-05 OSCILLATION LIMIT = 4.934
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2729
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1598 CRITERION= .2627 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 33 COMPLETED. CUM ITER = 418
 *** TIME = .575927E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6238E-05 OSCILLATION LIMIT = 4.921
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2727
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1596 CRITERION= .2624 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 34 COMPLETED. CUM ITER = 419
 *** TIME = .583816E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6235E-05 OSCILLATION LIMIT = 4.919
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2724
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1595 CRITERION= .2622 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 35 COMPLETED. CUM ITER = 420
 *** TIME = .591705E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6220E-05 OSCILLATION LIMIT = 4.907
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2723
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1593 CRITERION= .2619 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 36 COMPLETED. CUM ITER = 421
 *** TIME = .599595E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6216E-05 OSCILLATION LIMIT = 4.904
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1590 CRITERION= .2618 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 37 COMPLETED. CUM ITER = 422
 *** TIME = .607484E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6201E-05 OSCILLATION LIMIT = 4.892
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2718
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1589 CRITERION= .2614 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 14 SUBSTEP 38 COMPLETED. CUM ITER = 423
 *** TIME = .615374E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .6197E-05 OSCILLATION LIMIT = 4.889
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.47 CRITERION= .2715
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
 HT FLOW CONVERGENCE VALUE= .1589 CRITERION= .2613 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 39 COMPLETED. CUM ITER = 424
*** TIME = .623263E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6182E-05 OSCILLATION LIMIT = 4.877
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 73.12 CRITERION= .2713
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2631
HT FLOW CONVERGENCE VALUE= .1588 CRITERION= .2609 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 14 SUBSTEP 40 COMPLETED. CUM ITER = 425
*** TIME = .631152E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .6176E-05 OSCILLATION LIMIT = 4.873
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 15:59:37 JUN 12, 1995 CP= 21063.780
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 48.33 CRITERION= .2653
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1033 CRITERION= .2608 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 1 COMPLETED. CUM ITER = 426
*** TIME = .639042E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1039E-04 OSCILLATION LIMIT = 8.201
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2652
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1029 CRITERION= .2605 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 2 COMPLETED. CUM ITER = 427
*** TIME = .646931E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9705E-05 OSCILLATION LIMIT = 7.657
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2649
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1033 CRITERION= .2604 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 3 COMPLETED. CUM ITER = 428
*** TIME = .654821E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8055E-05 OSCILLATION LIMIT = 6.355
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2648
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1028 CRITERION= .2601 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 4 COMPLETED. CUM ITER = 429
*** TIME = .662710E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9576E-05 OSCILLATION LIMIT = 7.555
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2645
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1031 CRITERION= .2600 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 5 COMPLETED. CUM ITER = 430
*** TIME = .670599E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8430E-05 OSCILLATION LIMIT = 6.651
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2644
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1027 CRITERION= .2597 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 6 COMPLETED. CUM ITER = 431
*** TIME = .678489E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9247E-05 OSCILLATION LIMIT = 7.295
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2641
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1030 CRITERION= .2596 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 7 COMPLETED. CUM ITER = 432
*** TIME = .686378E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8634E-05 OSCILLATION LIMIT = 6.812
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2640
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1026 CRITERION= .2592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 8 COMPLETED. CUM ITER = 433
*** TIME = .694268E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9077E-05 OSCILLATION LIMIT = 7.161
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2637
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1028 CRITERION= .2592 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 9 COMPLETED. CUM ITER = 434
*** TIME = .702157E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8728E-05 OSCILLATION LIMIT = 6.886
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2636
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1024 CRITERION= .2588 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 10 COMPLETED. CUM ITER = 435
*** TIME = .710046E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8988E-05 OSCILLATION LIMIT = 7.091
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2633
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1026 CRITERION= .2588 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 11 COMPLETED. CUM ITER = 436
*** TIME = .717936E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8767E-05 OSCILLATION LIMIT = 6.917
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2632
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1022 CRITERION= .2584 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 12 COMPLETED. CUM ITER = 437
*** TIME = .725825E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8936E-05 OSCILLATION LIMIT = 7.050
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2629
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
HT FLOW CONVERGENCE VALUE= .1025 CRITERION= .2583 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 13 COMPLETED. CUM ITER = 438
*** TIME = .733715E+08 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8780E-05 OSCILLATION LIMIT = 6.927
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2628
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1021 CRITERION= .2580 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 14 COMPLETED. CUM ITER = 439
 *** TIME = .741604E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8902E-05 OSCILLATION LIMIT = 7.023
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2625
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1023 CRITERION= .2579 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 15 COMPLETED. CUM ITER = 440
 *** TIME = .749493E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8781E-05 OSCILLATION LIMIT = 6.928
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2623
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1020 CRITERION= .2576 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 16 COMPLETED. CUM ITER = 441
 *** TIME = .757383E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8878E-05 OSCILLATION LIMIT = 7.004
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2620
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1021 CRITERION= .2575 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 17 COMPLETED. CUM ITER = 442
 *** TIME = .765272E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8776E-05 OSCILLATION LIMIT = 6.924
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2619
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1018 CRITERION= .2572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 18 COMPLETED. CUM ITER = 443
 *** TIME = .773162E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8858E-05 OSCILLATION LIMIT = 6.988
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2616
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1019 CRITERION= .2571 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 19 COMPLETED. CUM ITER = 444
 *** TIME = .781051E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8767E-05 OSCILLATION LIMIT = 6.917
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2615
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1016 CRITERION= .2568 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 20 COMPLETED. CUM ITER = 445
 *** TIME = .788940E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8839E-05 OSCILLATION LIMIT = 6.974
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2612
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1017 CRITERION= .2567 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 21 COMPLETED. CUM ITER = 446
 *** TIME = .796830E+08 TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .8757E-05  OSCILLATION LIMIT = 6.909
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 47.97  CRITERION= .2611
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1014  CRITERION= .2563  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 22 COMPLETED. CUM ITER = 447
*** TIME = .804719E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8822E-05  OSCILLATION LIMIT = 6.960
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 48.32  CRITERION= .2608
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1015  CRITERION= .2563  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 23 COMPLETED. CUM ITER = 448
*** TIME = .812609E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8745E-05  OSCILLATION LIMIT = 6.899
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 47.97  CRITERION= .2607
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1012  CRITERION= .2559  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 24 COMPLETED. CUM ITER = 449
*** TIME = .820498E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8805E-05  OSCILLATION LIMIT = 6.946
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 48.32  CRITERION= .2604
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1013  CRITERION= .2558  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 25 COMPLETED. CUM ITER = 450
*** TIME = .828387E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8734E-05  OSCILLATION LIMIT = 6.890
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 47.97  CRITERION= .2603
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1010  CRITERION= .2555  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 26 COMPLETED. CUM ITER = 451
*** TIME = .836277E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8790E-05  OSCILLATION LIMIT = 6.935
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 48.32  CRITERION= .2600
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1011  CRITERION= .2554  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 27 COMPLETED. CUM ITER = 452
*** TIME = .844166E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8722E-05  OSCILLATION LIMIT = 6.881
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 47.97  CRITERION= .2599
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1008  CRITERION= .2551  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 15 SUBSTEP 28 COMPLETED. CUM ITER = 453
*** TIME = .852056E+08  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8773E-05  OSCILLATION LIMIT = 6.922
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 48.32  CRITERION= .2596
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
  HT FLOW CONVERGENCE VALUE= .1009  CRITERION= .2550  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 15 SUBSTEP 29 COMPLETED. CUM ITER = 454
 *** TIME = .859945E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8709E-05 OSCILLATION LIMIT = 6.871
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2595
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1006 CRITERION= .2547 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 30 COMPLETED. CUM ITER = 455
 *** TIME = .867834E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8757E-05 OSCILLATION LIMIT = 6.909
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2592
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1007 CRITERION= .2546 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 31 COMPLETED. CUM ITER = 456
 *** TIME = .875724E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8696E-05 OSCILLATION LIMIT = 6.861
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2591
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1003 CRITERION= .2543 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 32 COMPLETED. CUM ITER = 457
 *** TIME = .883613E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8742E-05 OSCILLATION LIMIT = 6.897
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2588
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1004 CRITERION= .2542 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 33 COMPLETED. CUM ITER = 458
 *** TIME = .891503E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8684E-05 OSCILLATION LIMIT = 6.851
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1001 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 34 COMPLETED. CUM ITER = 459
 *** TIME = .899392E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8727E-05 OSCILLATION LIMIT = 6.885
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2584
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .1002 CRITERION= .2538 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 35 COMPLETED. CUM ITER = 460
 *** TIME = .907281E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8671E-05 OSCILLATION LIMIT = 6.841
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2583
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .9997E-01 CRITERION= .2534 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 15 SUBSTEP 36 COMPLETED. CUM ITER = 461
 *** TIME = .915171E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8712E-05 OSCILLATION LIMIT = 6.873
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2580
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732

HT FLOW CONVERGENCE VALUE= .1000 CRITERION= .2533 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 37 COMPLETED. CUM ITER = 462
 *** TIME = .923060E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8658E-05 OSCILLATION LIMIT = 6.831
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2578
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .9975E-01 CRITERION= .2530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 38 COMPLETED. CUM ITER = 463
 *** TIME = .930950E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8697E-05 OSCILLATION LIMIT = 6.861
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 48.32 CRITERION= .2575
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .9985E-01 CRITERION= .2529 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 39 COMPLETED. CUM ITER = 464
 *** TIME = .938839E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8645E-05 OSCILLATION LIMIT = 6.820
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 47.97 CRITERION= .2574
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1732
 HT FLOW CONVERGENCE VALUE= .9954E-01 CRITERION= .2526 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 15 SUBSTEP 40 COMPLETED. CUM ITER = 465
 *** TIME = .946728E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8682E-05 OSCILLATION LIMIT = 6.849

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 16:34:26 JUN 12, 1995 CP= 23099.690
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7847E-01 CRITERION= .2525 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 1 COMPLETED. CUM ITER = 466
 *** TIME = .954618E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1045E-04 OSCILLATION LIMIT = 8.243
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2554
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7814E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 2 COMPLETED. CUM ITER = 467
 *** TIME = .962507E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1005E-04 OSCILLATION LIMIT = 7.926
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2551
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7839E-01 CRITERION= .2522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 3 COMPLETED. CUM ITER = 468
 *** TIME = .970397E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9396E-05 OSCILLATION LIMIT = 7.413
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2550
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7803E-01 CRITERION= .2519 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 4 COMPLETED. CUM ITER = 469
 *** TIME = .978286E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1003E-04 OSCILLATION LIMIT = 7.912
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7822E-01 CRITERION= .2518 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 5 COMPLETED. CUM ITER = 470
 *** TIME = .986175E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9529E-05 OSCILLATION LIMIT = 7.518
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2547
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7788E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 6 COMPLETED. CUM ITER = 471
 *** TIME = .994065E+08 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9900E-05 OSCILLATION LIMIT = 7.810
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2544
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7809E-01 CRITERION= .2515 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 7 COMPLETED. CUM ITER = 472
 *** TIME = .100195E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9601E-05 OSCILLATION LIMIT = 7.575
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2543
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7776E-01 CRITERION= .2512 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 8 COMPLETED. CUM ITER = 473
 *** TIME = .100984E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9829E-05 OSCILLATION LIMIT = 7.755
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2540
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7796E-01 CRITERION= .2511 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 9 COMPLETED. CUM ITER = 474
 *** TIME = .101773E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9631E-05 OSCILLATION LIMIT = 7.599
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2539
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7762E-01 CRITERION= .2508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 10 COMPLETED. CUM ITER = 475
 *** TIME = .102562E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9787E-05 OSCILLATION LIMIT = 7.721
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2537
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7781E-01 CRITERION= .2507 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 11 COMPLETED. CUM ITER = 476
 *** TIME = .103351E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9641E-05 OSCILLATION LIMIT = 7.606

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2536
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7749E-01 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 12 COMPLETED. CUM ITER = 477
 *** TIME = .104140E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9761E-05 OSCILLATION LIMIT = 7.701
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2533
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7768E-01 CRITERION= .2504 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 13 COMPLETED. CUM ITER = 478
 *** TIME = .104929E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9642E-05 OSCILLATION LIMIT = 7.607
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2532
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7742E-01 CRITERION= .2501 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 14 COMPLETED. CUM ITER = 479
 *** TIME = .105718E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9740E-05 OSCILLATION LIMIT = 7.685
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2530
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7772E-01 CRITERION= .2500 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 15 COMPLETED. CUM ITER = 480
 *** TIME = .106507E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9638E-05 OSCILLATION LIMIT = 7.604
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2529
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7749E-01 CRITERION= .2497 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 16 COMPLETED. CUM ITER = 481
 *** TIME = .107296E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9725E-05 OSCILLATION LIMIT = 7.672
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2526
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7770E-01 CRITERION= .2497 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 17 COMPLETED. CUM ITER = 482
 *** TIME = .108085E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9630E-05 OSCILLATION LIMIT = 7.598
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2525
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7744E-01 CRITERION= .2494 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 18 COMPLETED. CUM ITER = 483
 *** TIME = .108874E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9709E-05 OSCILLATION LIMIT = 7.660
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2522
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7763E-01 CRITERION= .2493 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 19 COMPLETED. CUM ITER = 484

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*** TIME = .109663E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9621E-05    OSCILLATION LIMIT = 7.591
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.83    CRITERION= .2522
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7735E-01    CRITERION= .2490    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 20 COMPLETED. CUM ITER = 485
*** TIME = .110452E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9696E-05    OSCILLATION LIMIT = 7.649
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.19    CRITERION= .2519
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7752E-01    CRITERION= .2490    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 21 COMPLETED. CUM ITER = 486
*** TIME = .111241E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9612E-05    OSCILLATION LIMIT = 7.583
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.83    CRITERION= .2518
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7731E-01    CRITERION= .2486    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 22 COMPLETED. CUM ITER = 487
*** TIME = .112030E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9682E-05    OSCILLATION LIMIT = 7.639
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.19    CRITERION= .2515
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7755E-01    CRITERION= .2486    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 23 COMPLETED. CUM ITER = 488
*** TIME = .112818E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9603E-05    OSCILLATION LIMIT = 7.576
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.83    CRITERION= .2515
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7732E-01    CRITERION= .2483    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 24 COMPLETED. CUM ITER = 489
*** TIME = .113607E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9669E-05    OSCILLATION LIMIT = 7.629
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.19    CRITERION= .2512
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7753E-01    CRITERION= .2482    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 25 COMPLETED. CUM ITER = 490
*** TIME = .114396E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9593E-05    OSCILLATION LIMIT = 7.568
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 37.83    CRITERION= .2511
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7727E-01    CRITERION= .2479    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 26 COMPLETED. CUM ITER = 491
*** TIME = .115185E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9657E-05    OSCILLATION LIMIT = 7.618
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 38.19    CRITERION= .2508
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
    HT FLOW CONVERGENCE VALUE= .7755E-01    CRITERION= .2479    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 27 COMPLETED. CUM ITER = 492
*** TIME = .115974E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9582E-05 OSCILLATION LIMIT = 7.560
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2508
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .7753E-01 CRITERION= .2476 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 28 COMPLETED. CUM ITER = 493
*** TIME = .116763E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9644E-05 OSCILLATION LIMIT = 7.608
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2505
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .7789E-01 CRITERION= .2475 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 29 COMPLETED. CUM ITER = 494
*** TIME = .117552E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9572E-05 OSCILLATION LIMIT = 7.552
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2504
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .7774E-01 CRITERION= .2472 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 30 COMPLETED. CUM ITER = 495
*** TIME = .118341E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9631E-05 OSCILLATION LIMIT = 7.599
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2501
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .7805E-01 CRITERION= .2472 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 31 COMPLETED. CUM ITER = 496
*** TIME = .119130E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9562E-05 OSCILLATION LIMIT = 7.544
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2500
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .7790E-01 CRITERION= .2469 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 32 COMPLETED. CUM ITER = 497
*** TIME = .119919E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9619E-05 OSCILLATION LIMIT = 7.589
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2498
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .7818E-01 CRITERION= .2468 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 33 COMPLETED. CUM ITER = 498
*** TIME = .120708E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9552E-05 OSCILLATION LIMIT = 7.536
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2497
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
HT FLOW CONVERGENCE VALUE= .7805E-01 CRITERION= .2465 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 16 SUBSTEP 34 COMPLETED. CUM ITER = 499
*** TIME = .121497E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9608E-05 OSCILLATION LIMIT = 7.580
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2494

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7820E-01 CRITERION= .2464 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 35 COMPLETED. CUM ITER = 500
 *** TIME = .122286E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9542E-05 OSCILLATION LIMIT = 7.528
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2493
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7814E-01 CRITERION= .2461 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 36 COMPLETED. CUM ITER = 501
 *** TIME = .123075E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9596E-05 OSCILLATION LIMIT = 7.571
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.19 CRITERION= .2491
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7848E-01 CRITERION= .2461 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 37 COMPLETED. CUM ITER = 502
 *** TIME = .123864E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9532E-05 OSCILLATION LIMIT = 7.520
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2490
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7842E-01 CRITERION= .2458 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 38 COMPLETED. CUM ITER = 503
 *** TIME = .124653E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9584E-05 OSCILLATION LIMIT = 7.561
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 38.18 CRITERION= .2487
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7871E-01 CRITERION= .2457 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 39 COMPLETED. CUM ITER = 504
 *** TIME = .125441E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9521E-05 OSCILLATION LIMIT = 7.512
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 37.83 CRITERION= .2486
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1368
 HT FLOW CONVERGENCE VALUE= .7863E-01 CRITERION= .2454 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 16 SUBSTEP 40 COMPLETED. CUM ITER = 505
 *** TIME = .126230E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9572E-05 OSCILLATION LIMIT = 7.552

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:08:24 JUN 12, 1995 CP= 25123.200
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 32.40 CRITERION= .2475
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6689E-01 CRITERION= .2454 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 1 COMPLETED. CUM ITER = 506
 *** TIME = .127019E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9562E-05 OSCILLATION LIMIT = 7.544
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 32.04    CRITERION= .2475
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6671E-01 CRITERION= .2451    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 2 COMPLETED. CUM ITER = 507
*** TIME = .127808E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9152E-05    OSCILLATION LIMIT = 7.220
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.40    CRITERION= .2472
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6700E-01 CRITERION= .2451    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 3 COMPLETED. CUM ITER = 508
*** TIME = .128597E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8999E-05    OSCILLATION LIMIT = 7.099
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.04    CRITERION= .2472
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6668E-01 CRITERION= .2448    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 4 COMPLETED. CUM ITER = 509
*** TIME = .129386E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9209E-05    OSCILLATION LIMIT = 7.265
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.40    CRITERION= .2469
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6689E-01 CRITERION= .2448    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 5 COMPLETED. CUM ITER = 510
*** TIME = .130175E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9021E-05    OSCILLATION LIMIT = 7.117
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.04    CRITERION= .2469
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6660E-01 CRITERION= .2445    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 6 COMPLETED. CUM ITER = 511
*** TIME = .130964E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9171E-05    OSCILLATION LIMIT = 7.235
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.40    CRITERION= .2467
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6680E-01 CRITERION= .2445    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 7 COMPLETED. CUM ITER = 512
*** TIME = .131753E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9033E-05    OSCILLATION LIMIT = 7.126
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.04    CRITERION= .2466
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6650E-01 CRITERION= .2442    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 8 COMPLETED. CUM ITER = 513
*** TIME = .132542E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9145E-05    OSCILLATION LIMIT = 7.215
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.40    CRITERION= .2464
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6669E-01 CRITERION= .2442    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 9 COMPLETED. CUM ITER = 514
*** TIME = .133331E+09    TIME INC = 788940.

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*** RESPONSE EIGENVALUE = .9034E-05  OSCILLATION LIMIT = 7.127
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.04  CRITERION= .2463
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6640E-01 CRITERION= .2439  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 10 COMPLETED.  CUM ITER = 515
*** TIME = .134120E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9127E-05  OSCILLATION LIMIT = 7.200
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.40  CRITERION= .2461
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6659E-01 CRITERION= .2439  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 11 COMPLETED.  CUM ITER = 516
*** TIME = .134909E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9031E-05  OSCILLATION LIMIT = 7.125
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.04  CRITERION= .2460
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6630E-01 CRITERION= .2437  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 12 COMPLETED.  CUM ITER = 517
*** TIME = .135698E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9112E-05  OSCILLATION LIMIT = 7.189
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.40  CRITERION= .2458
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6649E-01 CRITERION= .2436  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 13 COMPLETED.  CUM ITER = 518
*** TIME = .136487E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9025E-05  OSCILLATION LIMIT = 7.120
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.04  CRITERION= .2457
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6620E-01 CRITERION= .2434  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 14 COMPLETED.  CUM ITER = 519
*** TIME = .137276E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9099E-05  OSCILLATION LIMIT = 7.179
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.40  CRITERION= .2455
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6639E-01 CRITERION= .2433  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 15 COMPLETED.  CUM ITER = 520
*** TIME = .138065E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9018E-05  OSCILLATION LIMIT = 7.115
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.04  CRITERION= .2454
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6610E-01 CRITERION= .2431  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 16 COMPLETED.  CUM ITER = 521
*** TIME = .138853E+09  TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9087E-05  OSCILLATION LIMIT = 7.169
*** AUTO STEP TIME:  NEXT TIME INC = .78894E+06  UNCHANGED

  HT FLOW CONVERGENCE VALUE= 32.40  CRITERION= .2452
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
  HT FLOW CONVERGENCE VALUE= .6627E-01 CRITERION= .2431  <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 17 SUBSTEP 17 COMPLETED. CUM ITER = 522
*** TIME = .139642E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9010E-05 OSCILLATION LIMIT = 7.109
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.04 CRITERION= .2452
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6600E-01 CRITERION= .2428 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 18 COMPLETED. CUM ITER = 523
*** TIME = .140431E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9075E-05 OSCILLATION LIMIT = 7.160
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2449
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6619E-01 CRITERION= .2428 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 19 COMPLETED. CUM ITER = 524
*** TIME = .141220E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9002E-05 OSCILLATION LIMIT = 7.102
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.04 CRITERION= .2449
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6592E-01 CRITERION= .2425 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 20 COMPLETED. CUM ITER = 525
*** TIME = .142009E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9065E-05 OSCILLATION LIMIT = 7.152
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2446
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6609E-01 CRITERION= .2425 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 21 COMPLETED. CUM ITER = 526
*** TIME = .142798E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8994E-05 OSCILLATION LIMIT = 7.096
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.04 CRITERION= .2446
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6582E-01 CRITERION= .2422 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 22 COMPLETED. CUM ITER = 527
*** TIME = .143587E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9054E-05 OSCILLATION LIMIT = 7.143
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2443
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6598E-01 CRITERION= .2422 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 23 COMPLETED. CUM ITER = 528
*** TIME = .144376E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .8986E-05 OSCILLATION LIMIT = 7.089
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.04 CRITERION= .2443
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
HT FLOW CONVERGENCE VALUE= .6573E-01 CRITERION= .2419 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 17 SUBSTEP 24 COMPLETED. CUM ITER = 529
*** TIME = .145165E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .9045E-05 OSCILLATION LIMIT = 7.136
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2440
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160

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HT FLOW CONVERGENCE VALUE= .6593E-01 CRITERION= .2419 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 25 COMPLETED. CUM ITER = 530
 *** TIME = .145954E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8978E-05 OSCILLATION LIMIT = 7.083
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2440
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6567E-01 CRITERION= .2416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 26 COMPLETED. CUM ITER = 531
 *** TIME = .146743E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9034E-05 OSCILLATION LIMIT = 7.128
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2437
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6584E-01 CRITERION= .2416 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 27 COMPLETED. CUM ITER = 532
 *** TIME = .147532E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8969E-05 OSCILLATION LIMIT = 7.076
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2437
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6558E-01 CRITERION= .2413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 28 COMPLETED. CUM ITER = 533
 *** TIME = .148321E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9025E-05 OSCILLATION LIMIT = 7.120
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2434
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6574E-01 CRITERION= .2413 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 29 COMPLETED. CUM ITER = 534
 *** TIME = .149110E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8961E-05 OSCILLATION LIMIT = 7.070
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2434
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6549E-01 CRITERION= .2410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 30 COMPLETED. CUM ITER = 535
 *** TIME = .149899E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9015E-05 OSCILLATION LIMIT = 7.112
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2432
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6564E-01 CRITERION= .2410 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 31 COMPLETED. CUM ITER = 536
 *** TIME = .150688E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8952E-05 OSCILLATION LIMIT = 7.063
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2431
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6540E-01 CRITERION= .2407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 32 COMPLETED. CUM ITER = 537
 *** TIME = .151477E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .9005E-05 OSCILLATION LIMIT = 7.104
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.39 CRITERION= .2429
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6554E-01 CRITERION= .2407 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 33 COMPLETED. CUM ITER = 538
 *** TIME = .152265E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8943E-05 OSCILLATION LIMIT = 7.055
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2428
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6529E-01 CRITERION= .2404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 34 COMPLETED. CUM ITER = 539
 *** TIME = .153054E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8994E-05 OSCILLATION LIMIT = 7.096
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.38 CRITERION= .2426
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6542E-01 CRITERION= .2404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 35 COMPLETED. CUM ITER = 540
 *** TIME = .153843E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8934E-05 OSCILLATION LIMIT = 7.048
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6518E-01 CRITERION= .2401 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 36 COMPLETED. CUM ITER = 541
 *** TIME = .154632E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8984E-05 OSCILLATION LIMIT = 7.088
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.38 CRITERION= .2423
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6532E-01 CRITERION= .2401 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 37 COMPLETED. CUM ITER = 542
 *** TIME = .155421E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8925E-05 OSCILLATION LIMIT = 7.041
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2422
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6508E-01 CRITERION= .2398 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 38 COMPLETED. CUM ITER = 543
 *** TIME = .156210E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8974E-05 OSCILLATION LIMIT = 7.080
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.38 CRITERION= .2420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6519E-01 CRITERION= .2398 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 39 COMPLETED. CUM ITER = 544
 *** TIME = .156999E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8916E-05 OSCILLATION LIMIT = 7.034
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 32.03 CRITERION= .2420
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1160
 HT FLOW CONVERGENCE VALUE= .6496E-01 CRITERION= .2395 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 17 SUBSTEP 40 COMPLETED. CUM ITER = 545
 *** TIME = .157788E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .8965E-05 OSCILLATION LIMIT = 7.073

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 17:42:23 JUN 12, 1995 CP= 27145.690
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 27.36 CRITERION= .2411
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5512E-01 CRITERION= .2395 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 1 COMPLETED. CUM ITER = 546
 *** TIME = .158577E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1447E-04 OSCILLATION LIMIT = 11.42
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2410
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5484E-01 CRITERION= .2392 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 2 COMPLETED. CUM ITER = 547
 *** TIME = .159366E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1488E-04 OSCILLATION LIMIT = 11.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.36 CRITERION= .2407
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5479E-01 CRITERION= .2392 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 3 COMPLETED. CUM ITER = 548
 *** TIME = .160155E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1348E-04 OSCILLATION LIMIT = 10.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2407
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5472E-01 CRITERION= .2389 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 4 COMPLETED. CUM ITER = 549
 *** TIME = .160944E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1465E-04 OSCILLATION LIMIT = 11.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.36 CRITERION= .2404
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5474E-01 CRITERION= .2388 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 5 COMPLETED. CUM ITER = 550
 *** TIME = .161733E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1377E-04 OSCILLATION LIMIT = 10.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2403
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5458E-01 CRITERION= .2385 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 6 COMPLETED. CUM ITER = 551
 *** TIME = .162522E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1443E-04 OSCILLATION LIMIT = 11.39
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.36 CRITERION= .2401
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5467E-01 CRITERION= .2385 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 7 COMPLETED. CUM ITER = 552

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*** TIME = .163311E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1391E-04    OSCILLATION LIMIT = 10.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.00    CRITERION= .2400
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5446E-01    CRITERION= .2382    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 8 COMPLETED. CUM ITER = 553
*** TIME = .164100E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1432E-04    OSCILLATION LIMIT = 11.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.36    CRITERION= .2397
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5458E-01    CRITERION= .2381    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 9 COMPLETED. CUM ITER = 554
*** TIME = .164888E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1398E-04    OSCILLATION LIMIT = 11.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.00    CRITERION= .2396
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5435E-01    CRITERION= .2378    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 10 COMPLETED. CUM ITER = 555
*** TIME = .165677E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1426E-04    OSCILLATION LIMIT = 11.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.36    CRITERION= .2394
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5448E-01    CRITERION= .2378    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 11 COMPLETED. CUM ITER = 556
*** TIME = .166466E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1401E-04    OSCILLATION LIMIT = 11.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.00    CRITERION= .2393
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5425E-01    CRITERION= .2375    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 12 COMPLETED. CUM ITER = 557
*** TIME = .167255E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1422E-04    OSCILLATION LIMIT = 11.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.36    CRITERION= .2390
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5439E-01    CRITERION= .2374    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 13 COMPLETED. CUM ITER = 558
*** TIME = .168044E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1402E-04    OSCILLATION LIMIT = 11.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.00    CRITERION= .2390
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5416E-01    CRITERION= .2371    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 14 COMPLETED. CUM ITER = 559
*** TIME = .168833E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1420E-04    OSCILLATION LIMIT = 11.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 27.36    CRITERION= .2387
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
    HT FLOW CONVERGENCE VALUE= .5430E-01    CRITERION= .2371    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 15 COMPLETED. CUM ITER = 560
*** TIME = .169622E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1403E-04 OSCILLATION LIMIT = 11.07
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2386
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .5406E-01 CRITERION= .2368 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 16 COMPLETED. CUM ITER = 561
*** TIME = .170411E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1418E-04 OSCILLATION LIMIT = 11.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2383
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .5420E-01 CRITERION= .2367 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 17 COMPLETED. CUM ITER = 562
*** TIME = .171200E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1403E-04 OSCILLATION LIMIT = 11.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2383
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .5398E-01 CRITERION= .2364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 18 COMPLETED. CUM ITER = 563
*** TIME = .171989E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1417E-04 OSCILLATION LIMIT = 11.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2380
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .5411E-01 CRITERION= .2364 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 19 COMPLETED. CUM ITER = 564
*** TIME = .172778E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1402E-04 OSCILLATION LIMIT = 11.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2379
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .5386E-01 CRITERION= .2361 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 20 COMPLETED. CUM ITER = 565
*** TIME = .173567E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1416E-04 OSCILLATION LIMIT = 11.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2376
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .5399E-01 CRITERION= .2360 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 21 COMPLETED. CUM ITER = 566
*** TIME = .174356E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1402E-04 OSCILLATION LIMIT = 11.06
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2376
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
HT FLOW CONVERGENCE VALUE= .5377E-01 CRITERION= .2357 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 18 SUBSTEP 22 COMPLETED. CUM ITER = 567
*** TIME = .175145E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1415E-04 OSCILLATION LIMIT = 11.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2373

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5390E-01 CRITERION= .2357 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 23 COMPLETED. CUM ITER = 568
 *** TIME = .175934E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1401E-04 OSCILLATION LIMIT = 11.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2372
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5367E-01 CRITERION= .2354 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 24 COMPLETED. CUM ITER = 569
 *** TIME = .176723E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1414E-04 OSCILLATION LIMIT = 11.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5381E-01 CRITERION= .2353 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 25 COMPLETED. CUM ITER = 570
 *** TIME = .177512E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1400E-04 OSCILLATION LIMIT = 11.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2369
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5361E-01 CRITERION= .2350 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 26 COMPLETED. CUM ITER = 571
 *** TIME = .178300E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1413E-04 OSCILLATION LIMIT = 11.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2366
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5373E-01 CRITERION= .2350 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 27 COMPLETED. CUM ITER = 572
 *** TIME = .179089E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1400E-04 OSCILLATION LIMIT = 11.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2365
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5351E-01 CRITERION= .2347 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 28 COMPLETED. CUM ITER = 573
 *** TIME = .179878E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1412E-04 OSCILLATION LIMIT = 11.14
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2363
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5363E-01 CRITERION= .2346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 29 COMPLETED. CUM ITER = 574
 *** TIME = .180667E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1399E-04 OSCILLATION LIMIT = 11.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2362
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5341E-01 CRITERION= .2343 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 30 COMPLETED. CUM ITER = 575
 *** TIME = .181456E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1411E-04 OSCILLATION LIMIT = 11.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2359
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5353E-01 CRITERION= .2343 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 31 COMPLETED. CUM ITER = 576
 *** TIME = .182245E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1398E-04 OSCILLATION LIMIT = 11.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.00 CRITERION= .2358
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5332E-01 CRITERION= .2340 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 32 COMPLETED. CUM ITER = 577
 *** TIME = .183034E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1410E-04 OSCILLATION LIMIT = 11.13
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2356
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5343E-01 CRITERION= .2339 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 33 COMPLETED. CUM ITER = 578
 *** TIME = .183823E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1398E-04 OSCILLATION LIMIT = 11.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .2355
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5322E-01 CRITERION= .2336 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 34 COMPLETED. CUM ITER = 579
 *** TIME = .184612E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1409E-04 OSCILLATION LIMIT = 11.12
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2352
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5333E-01 CRITERION= .2336 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 35 COMPLETED. CUM ITER = 580
 *** TIME = .185401E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1397E-04 OSCILLATION LIMIT = 11.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .2352
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5313E-01 CRITERION= .2333 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 36 COMPLETED. CUM ITER = 581
 *** TIME = .186190E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1408E-04 OSCILLATION LIMIT = 11.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.35 CRITERION= .2349
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5324E-01 CRITERION= .2333 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 37 COMPLETED. CUM ITER = 582
 *** TIME = .186979E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1396E-04 OSCILLATION LIMIT = 11.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .2348
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5304E-01 CRITERION= .2330 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 38 COMPLETED. CUM ITER = 583
 *** TIME = .187768E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1408E-04 OSCILLATION LIMIT = 11.10
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 27.34 CRITERION= .2345
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5315E-01 CRITERION= .2329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 39 COMPLETED. CUM ITER = 584
 *** TIME = .188557E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1396E-04 OSCILLATION LIMIT = 11.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 26.99 CRITERION= .2345
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9799E-01
 HT FLOW CONVERGENCE VALUE= .5296E-01 CRITERION= .2326 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 18 SUBSTEP 40 COMPLETED. CUM ITER = 585
 *** TIME = .189346E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1407E-04 OSCILLATION LIMIT = 11.10

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 18:16:25 JUN 12, 1995 CP= 29170.130
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 22.45 CRITERION= .2337
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4350E-01 CRITERION= .2326 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 1 COMPLETED. CUM ITER = 586
 *** TIME = .190135E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1359E-04 OSCILLATION LIMIT = 10.72
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2336
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4322E-01 CRITERION= .2323 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 2 COMPLETED. CUM ITER = 587
 *** TIME = .190924E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1301E-04 OSCILLATION LIMIT = 10.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8024E-01
 HT FLOW CONVERGENCE VALUE= .4342E-01 CRITERION= .2323 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 3 COMPLETED. CUM ITER = 588
 *** TIME = .191712E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1307E-04 OSCILLATION LIMIT = 10.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2334
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4319E-01 CRITERION= .2321 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 4 COMPLETED. CUM ITER = 589
 *** TIME = .192501E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1315E-04 OSCILLATION LIMIT = 10.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8024E-01
 HT FLOW CONVERGENCE VALUE= .4336E-01 CRITERION= .2321 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 5 COMPLETED. CUM ITER = 590
 *** TIME = .193290E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1303E-04 OSCILLATION LIMIT = 10.28
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2331
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4313E-01 CRITERION= .2318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 6 COMPLETED. CUM ITER = 591
 *** TIME = .194079E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1316E-04 OSCILLATION LIMIT = 10.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2329
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8024E-01
 HT FLOW CONVERGENCE VALUE= .4329E-01 CRITERION= .2318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 7 COMPLETED. CUM ITER = 592
 *** TIME = .194868E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1301E-04 OSCILLATION LIMIT = 10.27
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2328
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4308E-01 CRITERION= .2315 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 8 COMPLETED. CUM ITER = 593
 *** TIME = .195657E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1315E-04 OSCILLATION LIMIT = 10.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2326
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8024E-01
 HT FLOW CONVERGENCE VALUE= .4324E-01 CRITERION= .2315 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 9 COMPLETED. CUM ITER = 594
 *** TIME = .196446E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1300E-04 OSCILLATION LIMIT = 10.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2326
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4302E-01 CRITERION= .2313 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 10 COMPLETED. CUM ITER = 595
 *** TIME = .197235E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1315E-04 OSCILLATION LIMIT = 10.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8024E-01
 HT FLOW CONVERGENCE VALUE= .4317E-01 CRITERION= .2312 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 11 COMPLETED. CUM ITER = 596
 *** TIME = .198024E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1300E-04 OSCILLATION LIMIT = 10.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2323
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4296E-01 CRITERION= .2310 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 19 SUBSTEP 12 COMPLETED. CUM ITER = 597
 *** TIME = .198813E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1314E-04 OSCILLATION LIMIT = 10.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2321
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01

HT FLOW CONVERGENCE VALUE= .4312E-01 CRITERION= .2310 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 13 COMPLETED. CUM ITER = 598
 *** TIME = .199602E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1299E-04 OSCILLATION LIMIT = 10.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2320
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4291E-01 CRITERION= .2307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 14 COMPLETED. CUM ITER = 599
 *** TIME = .200391E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1314E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4305E-01 CRITERION= .2307 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 15 COMPLETED. CUM ITER = 600
 *** TIME = .201180E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1299E-04 OSCILLATION LIMIT = 10.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2318
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4284E-01 CRITERION= .2304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 16 COMPLETED. CUM ITER = 601
 *** TIME = .201969E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1313E-04 OSCILLATION LIMIT = 10.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2315
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4301E-01 CRITERION= .2304 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 17 COMPLETED. CUM ITER = 602
 *** TIME = .202758E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1298E-04 OSCILLATION LIMIT = 10.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2315
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4280E-01 CRITERION= .2302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 18 COMPLETED. CUM ITER = 603
 *** TIME = .203547E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1312E-04 OSCILLATION LIMIT = 10.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2312
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4295E-01 CRITERION= .2302 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 19 COMPLETED. CUM ITER = 604
 *** TIME = .204335E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1297E-04 OSCILLATION LIMIT = 10.24
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2312
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4276E-01 CRITERION= .2299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 20 COMPLETED. CUM ITER = 605
 *** TIME = .205124E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1312E-04 OSCILLATION LIMIT = 10.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2310
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4290E-01 CRITERION= .2299 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 21 COMPLETED. CUM ITER = 606
 *** TIME = .205913E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1297E-04 OSCILLATION LIMIT = 10.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2310
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4271E-01 CRITERION= .2296 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 22 COMPLETED. CUM ITER = 607
 *** TIME = .206702E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1311E-04 OSCILLATION LIMIT = 10.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2307
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4285E-01 CRITERION= .2296 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 23 COMPLETED. CUM ITER = 608
 *** TIME = .207491E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1296E-04 OSCILLATION LIMIT = 10.23
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2307
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4265E-01 CRITERION= .2294 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 24 COMPLETED. CUM ITER = 609
 *** TIME = .208280E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1310E-04 OSCILLATION LIMIT = 10.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4279E-01 CRITERION= .2294 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 25 COMPLETED. CUM ITER = 610
 *** TIME = .209069E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1296E-04 OSCILLATION LIMIT = 10.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2304
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4260E-01 CRITERION= .2291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 26 COMPLETED. CUM ITER = 611
 *** TIME = .209858E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1309E-04 OSCILLATION LIMIT = 10.33
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2302
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4273E-01 CRITERION= .2291 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 27 COMPLETED. CUM ITER = 612
 *** TIME = .210647E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1295E-04 OSCILLATION LIMIT = 10.22
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2301
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4253E-01 CRITERION= .2288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 28 COMPLETED. CUM ITER = 613
 *** TIME = .211436E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1308E-04 OSCILLATION LIMIT = 10.32

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4266E-01 CRITERION= .2288 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 29 COMPLETED. CUM ITER = 614
 *** TIME = .212225E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1295E-04 OSCILLATION LIMIT = 10.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2299
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4247E-01 CRITERION= .2286 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 30 COMPLETED. CUM ITER = 615
 *** TIME = .213014E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1308E-04 OSCILLATION LIMIT = 10.32
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4260E-01 CRITERION= .2285 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 31 COMPLETED. CUM ITER = 616
 *** TIME = .213803E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1294E-04 OSCILLATION LIMIT = 10.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.09 CRITERION= .2296
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4242E-01 CRITERION= .2283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 32 COMPLETED. CUM ITER = 617
 *** TIME = .214592E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1307E-04 OSCILLATION LIMIT = 10.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.44 CRITERION= .2294
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4254E-01 CRITERION= .2283 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 33 COMPLETED. CUM ITER = 618
 *** TIME = .215381E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1294E-04 OSCILLATION LIMIT = 10.21
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.08 CRITERION= .2293
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4236E-01 CRITERION= .2280 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 34 COMPLETED. CUM ITER = 619
 *** TIME = .216170E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1306E-04 OSCILLATION LIMIT = 10.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.43 CRITERION= .2291
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4248E-01 CRITERION= .2280 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 35 COMPLETED. CUM ITER = 620
 *** TIME = .216959E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1293E-04 OSCILLATION LIMIT = 10.20
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.08 CRITERION= .2291
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
 HT FLOW CONVERGENCE VALUE= .4230E-01 CRITERION= .2277 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 19 SUBSTEP 36 COMPLETED. CUM ITER = 621

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*** TIME = .217747E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1305E-04    OSCILLATION LIMIT = 10.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

HT FLOW CONVERGENCE VALUE= 22.43    CRITERION= .2288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .4242E-01    CRITERION= .2277    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 37 COMPLETED.    CUM ITER = 622
*** TIME = .218536E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1292E-04    OSCILLATION LIMIT = 10.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.08    CRITERION= .2288
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .4225E-01    CRITERION= .2275    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 38 COMPLETED.    CUM ITER = 623
*** TIME = .219325E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1305E-04    OSCILLATION LIMIT = 10.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.43    CRITERION= .2286
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .4237E-01    CRITERION= .2275    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 39 COMPLETED.    CUM ITER = 624
*** TIME = .220114E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1292E-04    OSCILLATION LIMIT = 10.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 22.08    CRITERION= .2285
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8023E-01
HT FLOW CONVERGENCE VALUE= .4220E-01    CRITERION= .2272    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 19 SUBSTEP 40 COMPLETED.    CUM ITER = 625
*** TIME = .220903E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1304E-04    OSCILLATION LIMIT = 10.29

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303    VERSION=HP 9000/7XX    18:50:25 JUN 12, 1995 CP= 31195.120
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 20.49    CRITERION= .2281
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7343E-01
HT FLOW CONVERGENCE VALUE= .3870E-01    CRITERION= .2272    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 1 COMPLETED.    CUM ITER = 626
*** TIME = .221692E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1378E-04    OSCILLATION LIMIT = 10.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.14    CRITERION= .2281
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3850E-01    CRITERION= .2269    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 2 COMPLETED.    CUM ITER = 627
*** TIME = .222481E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1379E-04    OSCILLATION LIMIT = 10.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.49    CRITERION= .2279
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7343E-01
HT FLOW CONVERGENCE VALUE= .3862E-01    CRITERION= .2269    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 3 COMPLETED. CUM ITER = 628
*** TIME = .223270E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1348E-04 OSCILLATION LIMIT = 10.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2278
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3845E-01 CRITERION= .2267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 4 COMPLETED. CUM ITER = 629
*** TIME = .224059E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1378E-04 OSCILLATION LIMIT = 10.87
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2276
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3857E-01 CRITERION= .2267 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 5 COMPLETED. CUM ITER = 630
*** TIME = .224848E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1351E-04 OSCILLATION LIMIT = 10.66
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2276
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3840E-01 CRITERION= .2264 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 6 COMPLETED. CUM ITER = 631
*** TIME = .225637E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1374E-04 OSCILLATION LIMIT = 10.84
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2273
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3852E-01 CRITERION= .2264 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 7 COMPLETED. CUM ITER = 632
*** TIME = .226426E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1353E-04 OSCILLATION LIMIT = 10.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2273
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3835E-01 CRITERION= .2262 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 8 COMPLETED. CUM ITER = 633
*** TIME = .227215E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1372E-04 OSCILLATION LIMIT = 10.82
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2271
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3847E-01 CRITERION= .2262 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 9 COMPLETED. CUM ITER = 634
*** TIME = .228004E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1353E-04 OSCILLATION LIMIT = 10.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2271
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3830E-01 CRITERION= .2259 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 10 COMPLETED. CUM ITER = 635
*** TIME = .228793E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1370E-04 OSCILLATION LIMIT = 10.81
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2268

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3842E-01 CRITERION= .2259 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 11 COMPLETED. CUM ITER = 636
*** TIME = .229582E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1353E-04 OSCILLATION LIMIT = 10.68
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2268
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3825E-01 CRITERION= .2257 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 12 COMPLETED. CUM ITER = 637
*** TIME = .230371E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1369E-04 OSCILLATION LIMIT = 10.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2266
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3837E-01 CRITERION= .2257 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 13 COMPLETED. CUM ITER = 638
*** TIME = .231159E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1353E-04 OSCILLATION LIMIT = 10.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2266
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3820E-01 CRITERION= .2254 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 14 COMPLETED. CUM ITER = 639
*** TIME = .231948E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1368E-04 OSCILLATION LIMIT = 10.80
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2263
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3831E-01 CRITERION= .2254 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 15 COMPLETED. CUM ITER = 640
*** TIME = .232737E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1353E-04 OSCILLATION LIMIT = 10.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2263
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3814E-01 CRITERION= .2252 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 16 COMPLETED. CUM ITER = 641
*** TIME = .233526E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1368E-04 OSCILLATION LIMIT = 10.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2261
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3825E-01 CRITERION= .2252 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 17 COMPLETED. CUM ITER = 642
*** TIME = .234315E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2261
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3808E-01 CRITERION= .2249 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 20 SUBSTEP 18 COMPLETED. CUM ITER = 643
*** TIME = .235104E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1367E-04 OSCILLATION LIMIT = 10.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3820E-01 CRITERION= .2249 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 19 COMPLETED. CUM ITER = 644
 *** TIME = .235893E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1352E-04 OSCILLATION LIMIT = 10.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2258
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3804E-01 CRITERION= .2247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 20 COMPLETED. CUM ITER = 645
 *** TIME = .236682E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1366E-04 OSCILLATION LIMIT = 10.78
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2256
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3815E-01 CRITERION= .2246 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 21 COMPLETED. CUM ITER = 646
 *** TIME = .237471E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1351E-04 OSCILLATION LIMIT = 10.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2255
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3798E-01 CRITERION= .2244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 22 COMPLETED. CUM ITER = 647
 *** TIME = .238260E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1365E-04 OSCILLATION LIMIT = 10.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.49 CRITERION= .2253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3809E-01 CRITERION= .2244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 23 COMPLETED. CUM ITER = 648
 *** TIME = .239049E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1351E-04 OSCILLATION LIMIT = 10.66
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3793E-01 CRITERION= .2241 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 24 COMPLETED. CUM ITER = 649
 *** TIME = .239838E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1365E-04 OSCILLATION LIMIT = 10.77
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2251
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3804E-01 CRITERION= .2241 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 25 COMPLETED. CUM ITER = 650
 *** TIME = .240627E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1350E-04 OSCILLATION LIMIT = 10.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2250
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3788E-01 CRITERION= .2239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 26 COMPLETED. CUM ITER = 651
 *** TIME = .241416E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1364E-04 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3799E-01 CRITERION= .2239 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 27 COMPLETED. CUM ITER = 652
 *** TIME = .242205E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1350E-04 OSCILLATION LIMIT = 10.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2248
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3783E-01 CRITERION= .2236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 28 COMPLETED. CUM ITER = 653
 *** TIME = .242994E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1363E-04 OSCILLATION LIMIT = 10.76
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3796E-01 CRITERION= .2236 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 29 COMPLETED. CUM ITER = 654
 *** TIME = .243782E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1349E-04 OSCILLATION LIMIT = 10.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3782E-01 CRITERION= .2234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 30 COMPLETED. CUM ITER = 655
 *** TIME = .244571E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1363E-04 OSCILLATION LIMIT = 10.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3792E-01 CRITERION= .2234 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 31 COMPLETED. CUM ITER = 656
 *** TIME = .245360E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1348E-04 OSCILLATION LIMIT = 10.64
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3777E-01 CRITERION= .2231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 32 COMPLETED. CUM ITER = 657
 *** TIME = .246149E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1362E-04 OSCILLATION LIMIT = 10.74
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3787E-01 CRITERION= .2231 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 20 SUBSTEP 33 COMPLETED. CUM ITER = 658
 *** TIME = .246938E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1348E-04 OSCILLATION LIMIT = 10.63
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2240
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
 HT FLOW CONVERGENCE VALUE= .3772E-01 CRITERION= .2229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 34 COMPLETED. CUM ITER = 659
*** TIME = .247727E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1361E-04 OSCILLATION LIMIT = 10.74
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3782E-01 CRITERION= .2229 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 35 COMPLETED. CUM ITER = 660
*** TIME = .248516E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1347E-04 OSCILLATION LIMIT = 10.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2238
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3767E-01 CRITERION= .2226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 36 COMPLETED. CUM ITER = 661
*** TIME = .249305E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1361E-04 OSCILLATION LIMIT = 10.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2235
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3776E-01 CRITERION= .2226 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 37 COMPLETED. CUM ITER = 662
*** TIME = .250094E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1347E-04 OSCILLATION LIMIT = 10.63
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2235
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3762E-01 CRITERION= .2224 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 38 COMPLETED. CUM ITER = 663
*** TIME = .250883E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1360E-04 OSCILLATION LIMIT = 10.73
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.48 CRITERION= .2233
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3772E-01 CRITERION= .2223 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 39 COMPLETED. CUM ITER = 664
*** TIME = .251672E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1346E-04 OSCILLATION LIMIT = 10.62
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 20.14 CRITERION= .2233
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .7342E-01
HT FLOW CONVERGENCE VALUE= .3758E-01 CRITERION= .2221 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 20 SUBSTEP 40 COMPLETED. CUM ITER = 665
*** TIME = .252461E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1359E-04 OSCILLATION LIMIT = 10.72

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 19:24:23 JUN 12, 1995 CP= 33220.290
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2225
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5426E-01

HT FLOW CONVERGENCE VALUE= .2533E-01 CRITERION= .2221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 1 COMPLETED. CUM ITER = 666
 *** TIME = .253250E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2094E-04 OSCILLATION LIMIT = 16.52
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2225
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5422E-01
 HT FLOW CONVERGENCE VALUE= .2501E-01 CRITERION= .2219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 2 COMPLETED. CUM ITER = 667
 *** TIME = .254039E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2114E-04 OSCILLATION LIMIT = 16.67
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4825E-01
 HT FLOW CONVERGENCE VALUE= .2473E-01 CRITERION= .2219 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 3 COMPLETED. CUM ITER = 668
 *** TIME = .254828E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1984E-04 OSCILLATION LIMIT = 15.65
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2222
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5346E-01
 HT FLOW CONVERGENCE VALUE= .2492E-01 CRITERION= .2216 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 4 COMPLETED. CUM ITER = 669
 *** TIME = .255617E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2105E-04 OSCILLATION LIMIT = 16.60
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4983E-01
 HT FLOW CONVERGENCE VALUE= .2479E-01 CRITERION= .2216 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 5 COMPLETED. CUM ITER = 670
 *** TIME = .256406E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2007E-04 OSCILLATION LIMIT = 15.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2220
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5222E-01
 HT FLOW CONVERGENCE VALUE= .2482E-01 CRITERION= .2214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 6 COMPLETED. CUM ITER = 671
 *** TIME = .257194E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2089E-04 OSCILLATION LIMIT = 16.48
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5071E-01
 HT FLOW CONVERGENCE VALUE= .2481E-01 CRITERION= .2214 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 7 COMPLETED. CUM ITER = 672
 *** TIME = .257983E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2020E-04 OSCILLATION LIMIT = 15.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2217
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5161E-01
 HT FLOW CONVERGENCE VALUE= .2476E-01 CRITERION= .2211 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 8 COMPLETED. CUM ITER = 673
 *** TIME = .258772E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2080E-04 OSCILLATION LIMIT = 16.41
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5113E-01
 HT FLOW CONVERGENCE VALUE= .2480E-01 CRITERION= .2211 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 9 COMPLETED. CUM ITER = 674
 *** TIME = .259561E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2026E-04 OSCILLATION LIMIT = 15.99
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2215
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5132E-01
 HT FLOW CONVERGENCE VALUE= .2471E-01 CRITERION= .2209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 10 COMPLETED. CUM ITER = 675
 *** TIME = .260350E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2076E-04 OSCILLATION LIMIT = 16.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5132E-01
 HT FLOW CONVERGENCE VALUE= .2479E-01 CRITERION= .2209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 11 COMPLETED. CUM ITER = 676
 *** TIME = .261139E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2029E-04 OSCILLATION LIMIT = 16.01
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5119E-01
 HT FLOW CONVERGENCE VALUE= .2468E-01 CRITERION= .2207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 12 COMPLETED. CUM ITER = 677
 *** TIME = .261928E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2073E-04 OSCILLATION LIMIT = 16.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5140E-01
 HT FLOW CONVERGENCE VALUE= .2477E-01 CRITERION= .2207 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 13 COMPLETED. CUM ITER = 678
 *** TIME = .262717E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2031E-04 OSCILLATION LIMIT = 16.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5113E-01
 HT FLOW CONVERGENCE VALUE= .2464E-01 CRITERION= .2204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 14 COMPLETED. CUM ITER = 679
 *** TIME = .263506E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2071E-04 OSCILLATION LIMIT = 16.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5143E-01
 HT FLOW CONVERGENCE VALUE= .2474E-01 CRITERION= .2204 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 15 COMPLETED. CUM ITER = 680
 *** TIME = .264295E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2032E-04 OSCILLATION LIMIT = 16.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2208
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5111E-01
 HT FLOW CONVERGENCE VALUE= .2461E-01 CRITERION= .2202 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 16 COMPLETED. CUM ITER = 681
 *** TIME = .265084E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2070E-04 OSCILLATION LIMIT = 16.33

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2205
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5144E-01
HT FLOW CONVERGENCE VALUE= .2471E-01 CRITERION= .2202 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 17 COMPLETED. CUM ITER = 682
*** TIME = .265873E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2033E-04 OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2205
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5112E-01
HT FLOW CONVERGENCE VALUE= .2458E-01 CRITERION= .2199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 18 COMPLETED. CUM ITER = 683
*** TIME = .266662E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2069E-04 OSCILLATION LIMIT = 16.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5143E-01
HT FLOW CONVERGENCE VALUE= .2468E-01 CRITERION= .2199 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 19 COMPLETED. CUM ITER = 684
*** TIME = .267451E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2033E-04 OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2203
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5112E-01
HT FLOW CONVERGENCE VALUE= .2455E-01 CRITERION= .2197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 20 COMPLETED. CUM ITER = 685
*** TIME = .268240E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2069E-04 OSCILLATION LIMIT = 16.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5141E-01
HT FLOW CONVERGENCE VALUE= .2465E-01 CRITERION= .2197 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 21 COMPLETED. CUM ITER = 686
*** TIME = .269029E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2033E-04 OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2201
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5113E-01
HT FLOW CONVERGENCE VALUE= .2452E-01 CRITERION= .2195 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 22 COMPLETED. CUM ITER = 687
*** TIME = .269818E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2068E-04 OSCILLATION LIMIT = 16.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2198
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5140E-01
HT FLOW CONVERGENCE VALUE= .2462E-01 CRITERION= .2195 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 23 COMPLETED. CUM ITER = 688
*** TIME = .270606E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2033E-04 OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2198
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5115E-01
HT FLOW CONVERGENCE VALUE= .2449E-01 CRITERION= .2192 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 21 SUBSTEP 24 COMPLETED. CUM ITER = 689

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*** TIME = .271395E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2067E-04    OSCILLATION LIMIT = 16.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.02    CRITERION= .2196
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5138E-01
    HT FLOW CONVERGENCE VALUE= .2459E-01    CRITERION= .2192    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 25 COMPLETED.    CUM ITER = 690
*** TIME = .272184E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04    OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.67    CRITERION= .2196
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5116E-01
    HT FLOW CONVERGENCE VALUE= .2443E-01    CRITERION= .2190    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 26 COMPLETED.    CUM ITER = 691
*** TIME = .272973E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2067E-04    OSCILLATION LIMIT = 16.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.02    CRITERION= .2193
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5137E-01
    HT FLOW CONVERGENCE VALUE= .2453E-01    CRITERION= .2190    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 27 COMPLETED.    CUM ITER = 692
*** TIME = .273762E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04    OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.67    CRITERION= .2193
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5117E-01
    HT FLOW CONVERGENCE VALUE= .2440E-01    CRITERION= .2187    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 28 COMPLETED.    CUM ITER = 693
*** TIME = .274551E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2066E-04    OSCILLATION LIMIT = 16.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.02    CRITERION= .2191
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5136E-01
    HT FLOW CONVERGENCE VALUE= .2450E-01    CRITERION= .2187    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 29 COMPLETED.    CUM ITER = 694
*** TIME = .275340E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04    OSCILLATION LIMIT = 16.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.67    CRITERION= .2191
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5118E-01
    HT FLOW CONVERGENCE VALUE= .2437E-01    CRITERION= .2185    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 30 COMPLETED.    CUM ITER = 695
*** TIME = .276129E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2066E-04    OSCILLATION LIMIT = 16.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 13.02    CRITERION= .2189
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5135E-01
    HT FLOW CONVERGENCE VALUE= .2447E-01    CRITERION= .2185    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 31 COMPLETED.    CUM ITER = 696
*** TIME = .276918E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04    OSCILLATION LIMIT = 16.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 12.67    CRITERION= .2189
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5119E-01
    HT FLOW CONVERGENCE VALUE= .2435E-01    CRITERION= .2183    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 32 COMPLETED. CUM ITER = 697
*** TIME = .277707E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2066E-04 OSCILLATION LIMIT = 16.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2186
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5134E-01
HT FLOW CONVERGENCE VALUE= .2444E-01 CRITERION= .2183 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 33 COMPLETED. CUM ITER = 698
*** TIME = .278496E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04 OSCILLATION LIMIT = 16.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2186
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5119E-01
HT FLOW CONVERGENCE VALUE= .2430E-01 CRITERION= .2180 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 34 COMPLETED. CUM ITER = 699
*** TIME = .279285E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2065E-04 OSCILLATION LIMIT = 16.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5133E-01
HT FLOW CONVERGENCE VALUE= .2440E-01 CRITERION= .2180 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 35 COMPLETED. CUM ITER = 700
*** TIME = .280074E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04 OSCILLATION LIMIT = 16.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2184
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5120E-01
HT FLOW CONVERGENCE VALUE= .2427E-01 CRITERION= .2178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 36 COMPLETED. CUM ITER = 701
*** TIME = .280863E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2065E-04 OSCILLATION LIMIT = 16.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5132E-01
HT FLOW CONVERGENCE VALUE= .2437E-01 CRITERION= .2178 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 37 COMPLETED. CUM ITER = 702
*** TIME = .281652E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04 OSCILLATION LIMIT = 16.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2181
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5121E-01
HT FLOW CONVERGENCE VALUE= .2424E-01 CRITERION= .2175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 38 COMPLETED. CUM ITER = 703
*** TIME = .282441E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2064E-04 OSCILLATION LIMIT = 16.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 13.02 CRITERION= .2179
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5131E-01
HT FLOW CONVERGENCE VALUE= .2434E-01 CRITERION= .2175 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 21 SUBSTEP 39 COMPLETED. CUM ITER = 704
*** TIME = .283229E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .2034E-04 OSCILLATION LIMIT = 16.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 12.67 CRITERION= .2179

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.5121E-01
 HT FLOW CONVERGENCE VALUE= .2422E-01 CRITERION= .2173 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 21 SUBSTEP 40 COMPLETED. CUM ITER = 705
 *** TIME = .284018E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .2064E-04 OSCILLATION LIMIT = 16.28
 Apply loads and solve for 10 to 90 years

*DO LOOP ON PARAMETER= TM FROM .31558E+09 TO .28402E+10 BY .31558E+09
 TIME= .31558E+09

SELECT FOR ITEM=MAT COMPONENT=
 IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
 13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
 4464.28518 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
 IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
 IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11
 LOAD LABELS = TEMP
 VALUES = 164.75 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
 LOAD LABELS = TEMP
 VALUES = 165.54 .00000E+00 EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
 LOAD LABELS = TEMP
 VALUES = 167.51 .00000E+00 EXPANSION KEY = 1

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
 CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 35246.300 TIME= 19:58:26
 Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
 procedure) for ALL DOFs.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 19:58:26 JUN 12, 1995 CP= 35246.300
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

LOAD STEP NUMBER. 22
 TIME AT END OF THE LOAD STEP.31558E+09
 AUTOMATIC TIME STEPPING ON
 INITIAL NUMBER OF SUBSTEPS 10

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MAXIMUM NUMBER OF SUBSTEPS . . . . . 40
MINIMUM NUMBER OF SUBSTEPS . . . . . 5
START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS . . . . . NO
TRANSIENT (INERTIA) EFFECTS
  THERMAL DOFS . . . . . ON
TRANSIENT INTEGRATION PARAMETERS
  THETA. . . . . .50000
  OSCILLATION LIMIT CRITERION. . . . . .50000
  TOLERANCE. . . . . .20000
TERMINATE ANALYSIS IF NOT CONVERGED . . . . .YES (EXIT)
CONVERGENCE CONTROLS. . . . .USE DEFAULTS
PRINT OUTPUT CONTROLS . . . . .NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . .ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP

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HT FLOW CONVERGENCE VALUE= 11.37    CRITERION= .2176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2091E-01 CRITERION= .2173    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 1 COMPLETED. CUM ITER = 706
*** TIME = .284807E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1923E-04 OSCILLATION LIMIT = 15.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.02    CRITERION= .2176
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2063E-01 CRITERION= .2171    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 2 COMPLETED. CUM ITER = 707
*** TIME = .285596E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1903E-04 OSCILLATION LIMIT = 15.02
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.37    CRITERION= .2174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4084E-01
HT FLOW CONVERGENCE VALUE= .2085E-01 CRITERION= .2171    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 3 COMPLETED. CUM ITER = 708
*** TIME = .286385E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1916E-04 OSCILLATION LIMIT = 15.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.02    CRITERION= .2174
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2064E-01 CRITERION= .2169    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 4 COMPLETED. CUM ITER = 709
*** TIME = .287174E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1919E-04 OSCILLATION LIMIT = 15.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.37    CRITERION= .2172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4084E-01
HT FLOW CONVERGENCE VALUE= .2081E-01 CRITERION= .2169    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 5 COMPLETED. CUM ITER = 710
*** TIME = .287963E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1906E-04 OSCILLATION LIMIT = 15.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.02    CRITERION= .2172
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2064E-01 CRITERION= .2167    <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 6 COMPLETED. CUM ITER = 711
*** TIME = .288752E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1925E-04 OSCILLATION LIMIT = 15.19

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.37 CRITERION= .2170
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4084E-01
HT FLOW CONVERGENCE VALUE= .2078E-01 CRITERION= .2167 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 7 COMPLETED. CUM ITER = 712

*** TIME = .289541E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1901E-04 OSCILLATION LIMIT = 15.00

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2170
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2063E-01 CRITERION= .2165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 8 COMPLETED. CUM ITER = 713

*** TIME = .290330E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1928E-04 OSCILLATION LIMIT = 15.21

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.37 CRITERION= .2168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4084E-01
HT FLOW CONVERGENCE VALUE= .2075E-01 CRITERION= .2165 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 9 COMPLETED. CUM ITER = 714

*** TIME = .291119E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1899E-04 OSCILLATION LIMIT = 14.98

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2168
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2062E-01 CRITERION= .2163 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 10 COMPLETED. CUM ITER = 715

*** TIME = .291908E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1930E-04 OSCILLATION LIMIT = 15.22

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.37 CRITERION= .2166
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4084E-01
HT FLOW CONVERGENCE VALUE= .2073E-01 CRITERION= .2164 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 11 COMPLETED. CUM ITER = 716

*** TIME = .292697E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1897E-04 OSCILLATION LIMIT = 14.97

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2166
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2060E-01 CRITERION= .2161 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 12 COMPLETED. CUM ITER = 717

*** TIME = .293486E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1930E-04 OSCILLATION LIMIT = 15.23

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.37 CRITERION= .2164
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4084E-01
HT FLOW CONVERGENCE VALUE= .2071E-01 CRITERION= .2162 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 13 COMPLETED. CUM ITER = 718

*** TIME = .294275E+09 TIME INC = 788940.

*** RESPONSE EIGENVALUE = .1897E-04 OSCILLATION LIMIT = 14.96

*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2164
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2058E-01 CRITERION= .2159 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 22 SUBSTEP 14 COMPLETED. CUM ITER = 719

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*** TIME = .295064E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1930E-04    OSCILLATION LIMIT = 15.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.37    CRITERION= .2162
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4084E-01
    HT FLOW CONVERGENCE VALUE= .2069E-01    CRITERION= .2160    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 15 COMPLETED. CUM ITER = 720
*** TIME = .295853E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1896E-04    OSCILLATION LIMIT = 14.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.02    CRITERION= .2163
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2056E-01    CRITERION= .2158    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 16 COMPLETED. CUM ITER = 721
*** TIME = .296641E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1930E-04    OSCILLATION LIMIT = 15.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.37    CRITERION= .2160
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
    HT FLOW CONVERGENCE VALUE= .2066E-01    CRITERION= .2158    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 17 COMPLETED. CUM ITER = 722
*** TIME = .297430E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1896E-04    OSCILLATION LIMIT = 14.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.02    CRITERION= .2161
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2054E-01    CRITERION= .2156    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 18 COMPLETED. CUM ITER = 723
*** TIME = .298219E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1929E-04    OSCILLATION LIMIT = 15.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.36    CRITERION= .2159
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
    HT FLOW CONVERGENCE VALUE= .2064E-01    CRITERION= .2156    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 19 COMPLETED. CUM ITER = 724
*** TIME = .299008E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1896E-04    OSCILLATION LIMIT = 14.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.02    CRITERION= .2159
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2052E-01    CRITERION= .2154    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 20 COMPLETED. CUM ITER = 725
*** TIME = .299797E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1929E-04    OSCILLATION LIMIT = 15.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.36    CRITERION= .2157
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
    HT FLOW CONVERGENCE VALUE= .2062E-01    CRITERION= .2154    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 21 COMPLETED. CUM ITER = 726
*** TIME = .300586E+09    TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1896E-04    OSCILLATION LIMIT = 14.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 11.02    CRITERION= .2157
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
    HT FLOW CONVERGENCE VALUE= .2050E-01    CRITERION= .2152    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 22 COMPLETED. CUM ITER = 727
*** TIME = .301375E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1929E-04 OSCILLATION LIMIT = 15.22
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2155
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2060E-01 CRITERION= .2152 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 23 COMPLETED. CUM ITER = 728
*** TIME = .302164E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1896E-04 OSCILLATION LIMIT = 14.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2155
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2048E-01 CRITERION= .2150 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 24 COMPLETED. CUM ITER = 729
*** TIME = .302953E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1928E-04 OSCILLATION LIMIT = 15.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2153
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2058E-01 CRITERION= .2150 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 25 COMPLETED. CUM ITER = 730
*** TIME = .303742E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1896E-04 OSCILLATION LIMIT = 14.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2153
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2046E-01 CRITERION= .2148 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 26 COMPLETED. CUM ITER = 731
*** TIME = .304531E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1928E-04 OSCILLATION LIMIT = 15.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2151
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2056E-01 CRITERION= .2148 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 27 COMPLETED. CUM ITER = 732
*** TIME = .305320E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1895E-04 OSCILLATION LIMIT = 14.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2151
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2044E-01 CRITERION= .2146 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 28 COMPLETED. CUM ITER = 733
*** TIME = .306109E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1927E-04 OSCILLATION LIMIT = 15.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2149
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2054E-01 CRITERION= .2146 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 29 COMPLETED. CUM ITER = 734
*** TIME = .306898E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1895E-04 OSCILLATION LIMIT = 14.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2149

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2042E-01 CRITERION= .2144 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 30 COMPLETED. CUM ITER = 735
*** TIME = .307687E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1927E-04 OSCILLATION LIMIT = 15.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2147
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2052E-01 CRITERION= .2144 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 31 COMPLETED. CUM ITER = 736
*** TIME = .308476E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1895E-04 OSCILLATION LIMIT = 14.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2147
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2040E-01 CRITERION= .2142 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 32 COMPLETED. CUM ITER = 737
*** TIME = .309265E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1927E-04 OSCILLATION LIMIT = 15.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2145
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2050E-01 CRITERION= .2143 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 33 COMPLETED. CUM ITER = 738
*** TIME = .310053E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1895E-04 OSCILLATION LIMIT = 14.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2145
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2039E-01 CRITERION= .2140 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 34 COMPLETED. CUM ITER = 739
*** TIME = .310842E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1926E-04 OSCILLATION LIMIT = 15.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2143
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2046E-01 CRITERION= .2141 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 35 COMPLETED. CUM ITER = 740
*** TIME = .311631E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1895E-04 OSCILLATION LIMIT = 14.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2143
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
HT FLOW CONVERGENCE VALUE= .2035E-01 CRITERION= .2138 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 36 COMPLETED. CUM ITER = 741
*** TIME = .312420E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1926E-04 OSCILLATION LIMIT = 15.19
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2141
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4083E-01
HT FLOW CONVERGENCE VALUE= .2043E-01 CRITERION= .2139 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 22 SUBSTEP 37 COMPLETED. CUM ITER = 742
*** TIME = .313209E+09 TIME INC = 788940.
*** RESPONSE EIGENVALUE = .1895E-04 OSCILLATION LIMIT = 14.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2142
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2033E-01 CRITERION= .2137 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 38 COMPLETED. CUM ITER = 743
 *** TIME = .313998E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1926E-04 OSCILLATION LIMIT = 15.19
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.36 CRITERION= .2140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4082E-01
 HT FLOW CONVERGENCE VALUE= .2041E-01 CRITERION= .2137 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 39 COMPLETED. CUM ITER = 744
 *** TIME = .314787E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1895E-04 OSCILLATION LIMIT = 14.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+06 UNCHANGED

HT FLOW CONVERGENCE VALUE= 11.02 CRITERION= .2140
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4074E-01
 HT FLOW CONVERGENCE VALUE= .2031E-01 CRITERION= .2135 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 22 SUBSTEP 40 COMPLETED. CUM ITER = 745
 *** TIME = .315576E+09 TIME INC = 788940.
 *** RESPONSE EIGENVALUE = .1925E-04 OSCILLATION LIMIT = 15.19

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 20:32:29 JUN 12, 1995 CP= 37272.220
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 82.42 CRITERION= .2287
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4593
 HT FLOW CONVERGENCE VALUE= .1582 CRITERION= .2127 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 1 COMPLETED. CUM ITER = 746
 *** TIME = .323465E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2261E-04 OSCILLATION LIMIT = 178.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.08 CRITERION= .2280
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4449
 HT FLOW CONVERGENCE VALUE= .1601 CRITERION= .2117 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 2 COMPLETED. CUM ITER = 747
 *** TIME = .331355E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2256E-04 OSCILLATION LIMIT = 178.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.41 CRITERION= .2271
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4396
 HT FLOW CONVERGENCE VALUE= .1586 CRITERION= .2108 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 3 COMPLETED. CUM ITER = 748
 *** TIME = .339244E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.07 CRITERION= .2262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4426
 HT FLOW CONVERGENCE VALUE= .1578 CRITERION= .2098 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 4 COMPLETED. CUM ITER = 749
 *** TIME = .347134E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2249E-04 OSCILLATION LIMIT = 177.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.41 CRITERION= .2253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4405
 HT FLOW CONVERGENCE VALUE= .1568 CRITERION= .2090 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 5 COMPLETED. CUM ITER = 750
 *** TIME = .355023E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 177.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.06 CRITERION= .2245
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4427
 HT FLOW CONVERGENCE VALUE= .1560 CRITERION= .2079 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 6 COMPLETED. CUM ITER = 751
 *** TIME = .362912E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2249E-04 OSCILLATION LIMIT = 177.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.40 CRITERION= .2236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4409
 HT FLOW CONVERGENCE VALUE= .1550 CRITERION= .2071 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 7 COMPLETED. CUM ITER = 752
 *** TIME = .370802E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 177.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.05 CRITERION= .2227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4430
 HT FLOW CONVERGENCE VALUE= .1542 CRITERION= .2060 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 8 COMPLETED. CUM ITER = 753
 *** TIME = .378691E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2249E-04 OSCILLATION LIMIT = 177.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.39 CRITERION= .2218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4412
 HT FLOW CONVERGENCE VALUE= .1534 CRITERION= .2052 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 9 COMPLETED. CUM ITER = 754
 *** TIME = .386581E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 177.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.05 CRITERION= .2210
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4431
 HT FLOW CONVERGENCE VALUE= .1526 CRITERION= .2042 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 10 COMPLETED. CUM ITER = 755
 *** TIME = .394470E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2249E-04 OSCILLATION LIMIT = 177.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.39 CRITERION= .2201
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4415
 HT FLOW CONVERGENCE VALUE= .1516 CRITERION= .2034 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 23 SUBSTEP 11 COMPLETED. CUM ITER = 756
 *** TIME = .402359E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 177.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.04 CRITERION= .2193
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4433

HT FLOW CONVERGENCE VALUE= .1509 CRITERION= .2023 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 12 COMPLETED. CUM ITER = 757
 *** TIME = .410249E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2248E-04 OSCILLATION LIMIT = 177.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.38 CRITERION= .2183
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4417
 HT FLOW CONVERGENCE VALUE= .1501 CRITERION= .2015 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 13 COMPLETED. CUM ITER = 758
 *** TIME = .418138E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.03 CRITERION= .2175
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4434
 HT FLOW CONVERGENCE VALUE= .1493 CRITERION= .2004 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 14 COMPLETED. CUM ITER = 759
 *** TIME = .426028E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2248E-04 OSCILLATION LIMIT = 177.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.37 CRITERION= .2166
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4420
 HT FLOW CONVERGENCE VALUE= .1485 CRITERION= .1996 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 15 COMPLETED. CUM ITER = 760
 *** TIME = .433917E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.03 CRITERION= .2158
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4436
 HT FLOW CONVERGENCE VALUE= .1477 CRITERION= .1985 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 16 COMPLETED. CUM ITER = 761
 *** TIME = .441806E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2248E-04 OSCILLATION LIMIT = 177.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.37 CRITERION= .2149
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4423
 HT FLOW CONVERGENCE VALUE= .1469 CRITERION= .1977 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 17 COMPLETED. CUM ITER = 762
 *** TIME = .449696E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.02 CRITERION= .2141
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4438
 HT FLOW CONVERGENCE VALUE= .1462 CRITERION= .1967 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 18 COMPLETED. CUM ITER = 763
 *** TIME = .457585E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2248E-04 OSCILLATION LIMIT = 177.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.36 CRITERION= .2131
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4426
 HT FLOW CONVERGENCE VALUE= .1455 CRITERION= .1959 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 19 COMPLETED. CUM ITER = 764
 *** TIME = .465475E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.01 CRITERION= .2123
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4439
 HT FLOW CONVERGENCE VALUE= .1448 CRITERION= .1948 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 20 COMPLETED. CUM ITER = 765
 *** TIME = .473364E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2248E-04 OSCILLATION LIMIT = 177.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.35 CRITERION= .2114
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4428
 HT FLOW CONVERGENCE VALUE= .1441 CRITERION= .1940 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 21 COMPLETED. CUM ITER = 766
 *** TIME = .481253E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2243E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.01 CRITERION= .2106
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4441
 HT FLOW CONVERGENCE VALUE= .1428 CRITERION= .1929 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 22 COMPLETED. CUM ITER = 767
 *** TIME = .489143E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2248E-04 OSCILLATION LIMIT = 177.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.34 CRITERION= .2097
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4430
 HT FLOW CONVERGENCE VALUE= .1416 CRITERION= .1921 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 23 COMPLETED. CUM ITER = 768
 *** TIME = .497032E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2242E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.00 CRITERION= .2089
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4443
 HT FLOW CONVERGENCE VALUE= .1406 CRITERION= .1910 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 24 COMPLETED. CUM ITER = 769
 *** TIME = .504922E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2247E-04 OSCILLATION LIMIT = 177.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.34 CRITERION= .2080
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4433
 HT FLOW CONVERGENCE VALUE= .1394 CRITERION= .1902 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 25 COMPLETED. CUM ITER = 770
 *** TIME = .512811E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2242E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.99 CRITERION= .2071
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4445
 HT FLOW CONVERGENCE VALUE= .1379 CRITERION= .1892 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 26 COMPLETED. CUM ITER = 771
 *** TIME = .520700E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2247E-04 OSCILLATION LIMIT = 177.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.33 CRITERION= .2062
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4436
 HT FLOW CONVERGENCE VALUE= .1357 CRITERION= .1884 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 27 COMPLETED. CUM ITER = 772
 *** TIME = .528590E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2242E-04 OSCILLATION LIMIT = 176.9

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.98 CRITERION= .2054
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4446
 HT FLOW CONVERGENCE VALUE= .1332 CRITERION= .1873 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 28 COMPLETED. CUM ITER = 773
 *** TIME = .536479E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2247E-04 OSCILLATION LIMIT = 177.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.32 CRITERION= .2045
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4438
 HT FLOW CONVERGENCE VALUE= .1310 CRITERION= .1865 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 29 COMPLETED. CUM ITER = 774
 *** TIME = .544369E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2242E-04 OSCILLATION LIMIT = 176.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.98 CRITERION= .2037
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4448
 HT FLOW CONVERGENCE VALUE= .1279 CRITERION= .1854 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 30 COMPLETED. CUM ITER = 775
 *** TIME = .552258E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2246E-04 OSCILLATION LIMIT = 177.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.32 CRITERION= .2028
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4440
 HT FLOW CONVERGENCE VALUE= .1254 CRITERION= .1846 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 31 COMPLETED. CUM ITER = 776
 *** TIME = .560147E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2241E-04 OSCILLATION LIMIT = 176.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.97 CRITERION= .2020
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4450
 HT FLOW CONVERGENCE VALUE= .1239 CRITERION= .1836 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 32 COMPLETED. CUM ITER = 777
 *** TIME = .568037E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2246E-04 OSCILLATION LIMIT = 177.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.31 CRITERION= .2011
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4443
 HT FLOW CONVERGENCE VALUE= .1216 CRITERION= .1827 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 33 COMPLETED. CUM ITER = 778
 *** TIME = .575926E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2241E-04 OSCILLATION LIMIT = 176.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 81.96 CRITERION= .2003
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4452
 HT FLOW CONVERGENCE VALUE= .1203 CRITERION= .1817 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 34 COMPLETED. CUM ITER = 779
 *** TIME = .583816E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2246E-04 OSCILLATION LIMIT = 177.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 82.30 CRITERION= .1994
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4445
 HT FLOW CONVERGENCE VALUE= .1196 CRITERION= .1809 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 23 SUBSTEP 35 COMPLETED. CUM ITER = 780

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*** TIME = .591705E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2241E-04    OSCILLATION LIMIT = 176.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 81.96    CRITERION= .1986
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4454
    HT FLOW CONVERGENCE VALUE= .1189    CRITERION= .1798    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 36 COMPLETED. CUM ITER = 781
*** TIME = .599594E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2246E-04    OSCILLATION LIMIT = 177.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 82.30    CRITERION= .1977
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4448
    HT FLOW CONVERGENCE VALUE= .1183    CRITERION= .1790    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 37 COMPLETED. CUM ITER = 782
*** TIME = .607484E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2241E-04    OSCILLATION LIMIT = 176.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 81.95    CRITERION= .1968
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4456
    HT FLOW CONVERGENCE VALUE= .1176    CRITERION= .1779    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 38 COMPLETED. CUM ITER = 783
*** TIME = .615373E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2246E-04    OSCILLATION LIMIT = 177.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 82.29    CRITERION= .1960
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4450
    HT FLOW CONVERGENCE VALUE= .1170    CRITERION= .1771    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 39 COMPLETED. CUM ITER = 784
*** TIME = .623263E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2241E-04    OSCILLATION LIMIT = 176.8
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 81.94    CRITERION= .1951
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.4458
    HT FLOW CONVERGENCE VALUE= .1163    CRITERION= .1761    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 23 SUBSTEP 40 COMPLETED. CUM ITER = 785
*** TIME = .631152E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2246E-04    OSCILLATION LIMIT = 177.2

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303      VERSION=HP 9000/7XX    21:06:35 JUN 12, 1995 CP= 39298.350
FOR SUPPORT CALL ROBERT BAHNEY    PHONE (702) 794-5337    FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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    HT FLOW CONVERGENCE VALUE= 53.97    CRITERION= .1841
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3567
    HT FLOW CONVERGENCE VALUE= .8208E-01    CRITERION= .1755    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 1 COMPLETED. CUM ITER = 786
*** TIME = .639041E+09    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2319E-04    OSCILLATION LIMIT = 183.0
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 53.63    CRITERION= .1835
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3521
    HT FLOW CONVERGENCE VALUE= .8022E-01    CRITERION= .1746    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 2 COMPLETED. CUM ITER = 787
*** TIME = .646931E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2326E-04 OSCILLATION LIMIT = 183.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.97 CRITERION= .1827
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3548
HT FLOW CONVERGENCE VALUE= .8011E-01 CRITERION= .1741 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 3 COMPLETED. CUM ITER = 788
*** TIME = .654820E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2322E-04 OSCILLATION LIMIT = 183.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.62 CRITERION= .1821
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3537
HT FLOW CONVERGENCE VALUE= .7964E-01 CRITERION= .1732 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 4 COMPLETED. CUM ITER = 789
*** TIME = .662710E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2328E-04 OSCILLATION LIMIT = 183.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.97 CRITERION= .1814
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3549
HT FLOW CONVERGENCE VALUE= .7942E-01 CRITERION= .1727 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 5 COMPLETED. CUM ITER = 790
*** TIME = .670599E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2322E-04 OSCILLATION LIMIT = 183.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.62 CRITERION= .1808
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3540
HT FLOW CONVERGENCE VALUE= .7896E-01 CRITERION= .1718 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 6 COMPLETED. CUM ITER = 791
*** TIME = .678488E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2328E-04 OSCILLATION LIMIT = 183.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.96 CRITERION= .1800
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3551
HT FLOW CONVERGENCE VALUE= .7872E-01 CRITERION= .1712 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 7 COMPLETED. CUM ITER = 792
*** TIME = .686378E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2322E-04 OSCILLATION LIMIT = 183.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.62 CRITERION= .1794
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3543
HT FLOW CONVERGENCE VALUE= .7828E-01 CRITERION= .1704 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 8 COMPLETED. CUM ITER = 793
*** TIME = .694267E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2329E-04 OSCILLATION LIMIT = 183.7
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.96 CRITERION= .1787
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3553
HT FLOW CONVERGENCE VALUE= .7811E-01 CRITERION= .1698 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 24 SUBSTEP 9 COMPLETED. CUM ITER = 794
*** TIME = .702157E+09 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .2323E-04 OSCILLATION LIMIT = 183.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.61 CRITERION= .1781

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3545
 HT FLOW CONVERGENCE VALUE= .7776E-01 CRITERION= .1690 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 10 COMPLETED. CUM ITER = 795
 *** TIME = .710046E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2329E-04 OSCILLATION LIMIT = 183.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.96 CRITERION= .1774
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3553
 HT FLOW CONVERGENCE VALUE= .7754E-01 CRITERION= .1684 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 11 COMPLETED. CUM ITER = 796
 *** TIME = .717935E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-04 OSCILLATION LIMIT = 183.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.61 CRITERION= .1768
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3545
 HT FLOW CONVERGENCE VALUE= .7712E-01 CRITERION= .1676 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 12 COMPLETED. CUM ITER = 797
 *** TIME = .725825E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2329E-04 OSCILLATION LIMIT = 183.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.96 CRITERION= .1760
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3554
 HT FLOW CONVERGENCE VALUE= .7691E-01 CRITERION= .1670 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 13 COMPLETED. CUM ITER = 798
 *** TIME = .733714E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-04 OSCILLATION LIMIT = 183.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.61 CRITERION= .1754
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3547
 HT FLOW CONVERGENCE VALUE= .7648E-01 CRITERION= .1662 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 14 COMPLETED. CUM ITER = 799
 *** TIME = .741604E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2329E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.95 CRITERION= .1747
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3556
 HT FLOW CONVERGENCE VALUE= .7625E-01 CRITERION= .1656 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 15 COMPLETED. CUM ITER = 800
 *** TIME = .749493E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-04 OSCILLATION LIMIT = 183.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.60 CRITERION= .1741
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3550
 HT FLOW CONVERGENCE VALUE= .7584E-01 CRITERION= .1648 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 16 COMPLETED. CUM ITER = 801
 *** TIME = .757382E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2329E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.95 CRITERION= .1733
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3558
 HT FLOW CONVERGENCE VALUE= .7561E-01 CRITERION= .1642 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 17 COMPLETED. CUM ITER = 802
 *** TIME = .765272E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-04 OSCILLATION LIMIT = 183.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.60 CRITERION= .1727
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3553
 HT FLOW CONVERGENCE VALUE= .7517E-01 CRITERION= .1634 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 18 COMPLETED. CUM ITER = 803
 *** TIME = .773161E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2329E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.95 CRITERION= .1720
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3561
 HT FLOW CONVERGENCE VALUE= .7494E-01 CRITERION= .1628 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 19 COMPLETED. CUM ITER = 804
 *** TIME = .781051E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-04 OSCILLATION LIMIT = 183.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.60 CRITERION= .1714
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3555
 HT FLOW CONVERGENCE VALUE= .7451E-01 CRITERION= .1620 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 20 COMPLETED. CUM ITER = 805
 *** TIME = .788940E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2330E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.94 CRITERION= .1707
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3563
 HT FLOW CONVERGENCE VALUE= .7427E-01 CRITERION= .1614 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 21 COMPLETED. CUM ITER = 806
 *** TIME = .796829E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2323E-04 OSCILLATION LIMIT = 183.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.59 CRITERION= .1701
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3557
 HT FLOW CONVERGENCE VALUE= .7387E-01 CRITERION= .1606 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 22 COMPLETED. CUM ITER = 807
 *** TIME = .804719E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2330E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.94 CRITERION= .1693
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3563
 HT FLOW CONVERGENCE VALUE= .7361E-01 CRITERION= .1600 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 23 COMPLETED. CUM ITER = 808
 *** TIME = .812608E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2324E-04 OSCILLATION LIMIT = 183.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.59 CRITERION= .1687
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3558
 HT FLOW CONVERGENCE VALUE= .7319E-01 CRITERION= .1592 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 24 COMPLETED. CUM ITER = 809
 *** TIME = .820498E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2330E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.94 CRITERION= .1680
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3565
 HT FLOW CONVERGENCE VALUE= .7293E-01 CRITERION= .1586 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 25 COMPLETED. CUM ITER = 810
 *** TIME = .828387E+09 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .2324E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.59 CRITERION= .1674
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3561
 HT FLOW CONVERGENCE VALUE= .7248E-01 CRITERION= .1578 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 26 COMPLETED. CUM ITER = 811
 *** TIME = .836276E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2330E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.93 CRITERION= .1667
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3568
 HT FLOW CONVERGENCE VALUE= .7221E-01 CRITERION= .1572 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 27 COMPLETED. CUM ITER = 812
 *** TIME = .844166E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2324E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.59 CRITERION= .1661
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3563
 HT FLOW CONVERGENCE VALUE= .7175E-01 CRITERION= .1564 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 28 COMPLETED. CUM ITER = 813
 *** TIME = .852055E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2330E-04 OSCILLATION LIMIT = 183.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.93 CRITERION= .1654
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3571
 HT FLOW CONVERGENCE VALUE= .7146E-01 CRITERION= .1558 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 29 COMPLETED. CUM ITER = 814
 *** TIME = .859945E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2324E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.58 CRITERION= .1647
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3567
 HT FLOW CONVERGENCE VALUE= .7105E-01 CRITERION= .1550 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 30 COMPLETED. CUM ITER = 815
 *** TIME = .867834E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2330E-04 OSCILLATION LIMIT = 183.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.93 CRITERION= .1640
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3574
 HT FLOW CONVERGENCE VALUE= .7077E-01 CRITERION= .1544 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 31 COMPLETED. CUM ITER = 816
 *** TIME = .875723E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2324E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.58 CRITERION= .1634
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3570
 HT FLOW CONVERGENCE VALUE= .7034E-01 CRITERION= .1536 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 24 SUBSTEP 32 COMPLETED. CUM ITER = 817
 *** TIME = .883613E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2331E-04 OSCILLATION LIMIT = 183.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.92 CRITERION= .1627
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3576
 HT FLOW CONVERGENCE VALUE= .7006E-01 CRITERION= .1530 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 33 COMPLETED. CUM ITER = 818
 *** TIME = .891502E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2325E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.58 CRITERION= .1621
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3573
 HT FLOW CONVERGENCE VALUE= .6965E-01 CRITERION= .1522 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 34 COMPLETED. CUM ITER = 819
 *** TIME = .899392E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2331E-04 OSCILLATION LIMIT = 183.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.92 CRITERION= .1614
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3579
 HT FLOW CONVERGENCE VALUE= .6941E-01 CRITERION= .1516 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 35 COMPLETED. CUM ITER = 820
 *** TIME = .907281E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2325E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.57 CRITERION= .1608
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3576
 HT FLOW CONVERGENCE VALUE= .6900E-01 CRITERION= .1508 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 36 COMPLETED. CUM ITER = 821
 *** TIME = .915170E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2331E-04 OSCILLATION LIMIT = 183.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.92 CRITERION= .1600
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3582
 HT FLOW CONVERGENCE VALUE= .6874E-01 CRITERION= .1502 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 37 COMPLETED. CUM ITER = 822
 *** TIME = .923060E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2325E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.57 CRITERION= .1594
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3579
 HT FLOW CONVERGENCE VALUE= .6834E-01 CRITERION= .1494 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 38 COMPLETED. CUM ITER = 823
 *** TIME = .930949E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2331E-04 OSCILLATION LIMIT = 183.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.91 CRITERION= .1587
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3585
 HT FLOW CONVERGENCE VALUE= .6809E-01 CRITERION= .1488 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 39 COMPLETED. CUM ITER = 824
 *** TIME = .938839E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2325E-04 OSCILLATION LIMIT = 183.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 53.57 CRITERION= .1581
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3582
 HT FLOW CONVERGENCE VALUE= .6768E-01 CRITERION= .1480 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 24 SUBSTEP 40 COMPLETED. CUM ITER = 825
 *** TIME = .946728E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .2331E-04 OSCILLATION LIMIT = 183.9

***** ANSYS SOLVE COMMAND *****

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 21:40:40 JUN 12, 1995 CP= 41324.220
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 17.58 CRITERION= .1490
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3508
 HT FLOW CONVERGENCE VALUE= .5013E-01 CRITERION= .1475 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 1 COMPLETED. CUM ITER = 826
 *** TIME = .954617E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1929E-04 OSCILLATION LIMIT = 152.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1485
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3369
 HT FLOW CONVERGENCE VALUE= .4693E-01 CRITERION= .1469 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 2 COMPLETED. CUM ITER = 827
 *** TIME = .962507E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1971E-04 OSCILLATION LIMIT = 155.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.58 CRITERION= .1479
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3381
 HT FLOW CONVERGENCE VALUE= .4669E-01 CRITERION= .1465 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 3 COMPLETED. CUM ITER = 828
 *** TIME = .970396E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1970E-04 OSCILLATION LIMIT = 155.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1475
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3394
 HT FLOW CONVERGENCE VALUE= .4677E-01 CRITERION= .1458 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 4 COMPLETED. CUM ITER = 829
 *** TIME = .978286E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1970E-04 OSCILLATION LIMIT = 155.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.58 CRITERION= .1468
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3384
 HT FLOW CONVERGENCE VALUE= .4637E-01 CRITERION= .1454 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 5 COMPLETED. CUM ITER = 830
 *** TIME = .986175E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1969E-04 OSCILLATION LIMIT = 155.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1464
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3398
 HT FLOW CONVERGENCE VALUE= .4641E-01 CRITERION= .1447 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 6 COMPLETED. CUM ITER = 831
 *** TIME = .994064E+09 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1969E-04 OSCILLATION LIMIT = 155.4
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.58 CRITERION= .1457
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3389
 HT FLOW CONVERGENCE VALUE= .4603E-01 CRITERION= .1443 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 7 COMPLETED. CUM ITER = 832
 *** TIME = .100195E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1968E-04 OSCILLATION LIMIT = 155.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1453
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3402
 HT FLOW CONVERGENCE VALUE= .4610E-01 CRITERION= .1436 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 8 COMPLETED. CUM ITER = 833
 *** TIME = .100984E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1969E-04 OSCILLATION LIMIT = 155.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.58 CRITERION= .1447
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3394
 HT FLOW CONVERGENCE VALUE= .4566E-01 CRITERION= .1432 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 9 COMPLETED. CUM ITER = 834
 *** TIME = .101773E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1967E-04 OSCILLATION LIMIT = 155.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1443
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3406
 HT FLOW CONVERGENCE VALUE= .4572E-01 CRITERION= .1426 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 10 COMPLETED. CUM ITER = 835
 *** TIME = .102562E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1968E-04 OSCILLATION LIMIT = 155.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1436
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3399
 HT FLOW CONVERGENCE VALUE= .4540E-01 CRITERION= .1422 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 11 COMPLETED. CUM ITER = 836
 *** TIME = .103351E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1966E-04 OSCILLATION LIMIT = 155.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1432
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3410
 HT FLOW CONVERGENCE VALUE= .4543E-01 CRITERION= .1415 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 12 COMPLETED. CUM ITER = 837
 *** TIME = .104140E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1967E-04 OSCILLATION LIMIT = 155.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1425
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3404
 HT FLOW CONVERGENCE VALUE= .4512E-01 CRITERION= .1411 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 13 COMPLETED. CUM ITER = 838
 *** TIME = .104929E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1966E-04 OSCILLATION LIMIT = 155.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1421
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3414
 HT FLOW CONVERGENCE VALUE= .4515E-01 CRITERION= .1404 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 14 COMPLETED. CUM ITER = 839
 *** TIME = .105718E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1966E-04 OSCILLATION LIMIT = 155.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1415
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3409
 HT FLOW CONVERGENCE VALUE= .4482E-01 CRITERION= .1400 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 15 COMPLETED. CUM ITER = 840
 *** TIME = .106507E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1965E-04 OSCILLATION LIMIT = 155.0

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.23 CRITERION= .1411
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3418
 HT FLOW CONVERGENCE VALUE= .4483E-01 CRITERION= .1393 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 16 COMPLETED. CUM ITER = 841
 *** TIME = .107296E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1966E-04 OSCILLATION LIMIT = 155.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1404
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3413
 HT FLOW CONVERGENCE VALUE= .4452E-01 CRITERION= .1389 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 17 COMPLETED. CUM ITER = 842
 *** TIME = .108085E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1964E-04 OSCILLATION LIMIT = 154.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1400
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3421
 HT FLOW CONVERGENCE VALUE= .4452E-01 CRITERION= .1383 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 18 COMPLETED. CUM ITER = 843
 *** TIME = .108874E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1965E-04 OSCILLATION LIMIT = 155.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1393
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3417
 HT FLOW CONVERGENCE VALUE= .4422E-01 CRITERION= .1379 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 19 COMPLETED. CUM ITER = 844
 *** TIME = .109663E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1963E-04 OSCILLATION LIMIT = 154.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1389
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3424
 HT FLOW CONVERGENCE VALUE= .4421E-01 CRITERION= .1372 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 20 COMPLETED. CUM ITER = 845
 *** TIME = .110452E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1964E-04 OSCILLATION LIMIT = 154.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1383
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3422
 HT FLOW CONVERGENCE VALUE= .4393E-01 CRITERION= .1368 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 21 COMPLETED. CUM ITER = 846
 *** TIME = .111241E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1962E-04 OSCILLATION LIMIT = 154.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1379
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3428
 HT FLOW CONVERGENCE VALUE= .4388E-01 CRITERION= .1361 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 22 COMPLETED. CUM ITER = 847
 *** TIME = .112029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1963E-04 OSCILLATION LIMIT = 154.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1372
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3426
 HT FLOW CONVERGENCE VALUE= .4356E-01 CRITERION= .1357 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 23 COMPLETED. CUM ITER = 848

*** TIME = .112818E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1961E-04 OSCILLATION LIMIT = 154.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1368
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3432
 HT FLOW CONVERGENCE VALUE= .4352E-01 CRITERION= .1351 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 24 COMPLETED. CUM ITER = 849
 *** TIME = .113607E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1962E-04 OSCILLATION LIMIT = 154.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1361
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3430
 HT FLOW CONVERGENCE VALUE= .4328E-01 CRITERION= .1346 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 25 COMPLETED. CUM ITER = 850
 *** TIME = .114396E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1960E-04 OSCILLATION LIMIT = 154.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1357
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3436
 HT FLOW CONVERGENCE VALUE= .4324E-01 CRITERION= .1340 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 26 COMPLETED. CUM ITER = 851
 *** TIME = .115185E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1962E-04 OSCILLATION LIMIT = 154.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1351
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3434
 HT FLOW CONVERGENCE VALUE= .4296E-01 CRITERION= .1336 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 27 COMPLETED. CUM ITER = 852
 *** TIME = .115974E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1959E-04 OSCILLATION LIMIT = 154.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1347
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3440
 HT FLOW CONVERGENCE VALUE= .4296E-01 CRITERION= .1329 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 28 COMPLETED. CUM ITER = 853
 *** TIME = .116763E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1961E-04 OSCILLATION LIMIT = 154.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1340
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3439
 HT FLOW CONVERGENCE VALUE= .4271E-01 CRITERION= .1325 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 29 COMPLETED. CUM ITER = 854
 *** TIME = .117552E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1959E-04 OSCILLATION LIMIT = 154.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1336
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3444
 HT FLOW CONVERGENCE VALUE= .4269E-01 CRITERION= .1318 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 30 COMPLETED. CUM ITER = 855
 *** TIME = .118341E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1960E-04 OSCILLATION LIMIT = 154.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1330
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3443
 HT FLOW CONVERGENCE VALUE= .4244E-01 CRITERION= .1314 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 31 COMPLETED. CUM ITER = 856
*** TIME = .119130E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1958E-04 OSCILLATION LIMIT = 154.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1325
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3448
HT FLOW CONVERGENCE VALUE= .4241E-01 CRITERION= .1308 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 32 COMPLETED. CUM ITER = 857
*** TIME = .119919E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1959E-04 OSCILLATION LIMIT = 154.6
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1319
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3448
HT FLOW CONVERGENCE VALUE= .4214E-01 CRITERION= .1303 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 33 COMPLETED. CUM ITER = 858
*** TIME = .120708E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1957E-04 OSCILLATION LIMIT = 154.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1315
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3452
HT FLOW CONVERGENCE VALUE= .4192E-01 CRITERION= .1297 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 34 COMPLETED. CUM ITER = 859
*** TIME = .121497E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1958E-04 OSCILLATION LIMIT = 154.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1308
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3453
HT FLOW CONVERGENCE VALUE= .4177E-01 CRITERION= .1293 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 35 COMPLETED. CUM ITER = 860
*** TIME = .122286E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1956E-04 OSCILLATION LIMIT = 154.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1304
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3456
HT FLOW CONVERGENCE VALUE= .4163E-01 CRITERION= .1286 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 36 COMPLETED. CUM ITER = 861
*** TIME = .123075E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1957E-04 OSCILLATION LIMIT = 154.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1298
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3457
HT FLOW CONVERGENCE VALUE= .4133E-01 CRITERION= .1282 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 37 COMPLETED. CUM ITER = 862
*** TIME = .123864E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1955E-04 OSCILLATION LIMIT = 154.2
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1293
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3461
HT FLOW CONVERGENCE VALUE= .4132E-01 CRITERION= .1275 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 25 SUBSTEP 38 COMPLETED. CUM ITER = 863
*** TIME = .124653E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1957E-04 OSCILLATION LIMIT = 154.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.57 CRITERION= .1287

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3462
 HT FLOW CONVERGENCE VALUE= .4098E-01 CRITERION= .1271 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 39 COMPLETED. CUM ITER = 864
 *** TIME = .125441E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1954E-04 OSCILLATION LIMIT = 154.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 17.22 CRITERION= .1283
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3465
 HT FLOW CONVERGENCE VALUE= .4097E-01 CRITERION= .1265 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 25 SUBSTEP 40 COMPLETED. CUM ITER = 865
 *** TIME = .126230E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1956E-04 OSCILLATION LIMIT = 154.3

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:14:48 JUN 12, 1995 CP= 43353.100
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 4.425 CRITERION= .1265
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3134
 HT FLOW CONVERGENCE VALUE= .3818E-01 CRITERION= .1261 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 1 COMPLETED. CUM ITER = 866
 *** TIME = .127019E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1508E-04 OSCILLATION LIMIT = 119.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1262
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3112
 HT FLOW CONVERGENCE VALUE= .3736E-01 CRITERION= .1256 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 2 COMPLETED. CUM ITER = 867
 *** TIME = .127808E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1518E-04 OSCILLATION LIMIT = 119.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.425 CRITERION= .1256
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3123
 HT FLOW CONVERGENCE VALUE= .3728E-01 CRITERION= .1253 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 3 COMPLETED. CUM ITER = 868
 *** TIME = .128597E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1518E-04 OSCILLATION LIMIT = 119.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1253
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3120
 HT FLOW CONVERGENCE VALUE= .3730E-01 CRITERION= .1247 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 4 COMPLETED. CUM ITER = 869
 *** TIME = .129386E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1518E-04 OSCILLATION LIMIT = 119.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.425 CRITERION= .1247
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3126
 HT FLOW CONVERGENCE VALUE= .3717E-01 CRITERION= .1244 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 5 COMPLETED. CUM ITER = 870
 *** TIME = .130175E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 119.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1244
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3124
 HT FLOW CONVERGENCE VALUE= .3717E-01 CRITERION= .1238 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 6 COMPLETED. CUM ITER = 871
 *** TIME = .130964E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 119.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.425 CRITERION= .1239
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3130
 HT FLOW CONVERGENCE VALUE= .3699E-01 CRITERION= .1235 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 7 COMPLETED. CUM ITER = 872
 *** TIME = .131753E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1516E-04 OSCILLATION LIMIT = 119.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1236
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3128
 HT FLOW CONVERGENCE VALUE= .3707E-01 CRITERION= .1229 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 8 COMPLETED. CUM ITER = 873
 *** TIME = .132542E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1517E-04 OSCILLATION LIMIT = 119.7
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.425 CRITERION= .1230
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3134
 HT FLOW CONVERGENCE VALUE= .3691E-01 CRITERION= .1226 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 9 COMPLETED. CUM ITER = 874
 *** TIME = .133331E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1516E-04 OSCILLATION LIMIT = 119.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1227
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3131
 HT FLOW CONVERGENCE VALUE= .3689E-01 CRITERION= .1221 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 10 COMPLETED. CUM ITER = 875
 *** TIME = .134120E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1516E-04 OSCILLATION LIMIT = 119.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.425 CRITERION= .1221
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3138
 HT FLOW CONVERGENCE VALUE= .3674E-01 CRITERION= .1217 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 11 COMPLETED. CUM ITER = 876
 *** TIME = .134909E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1515E-04 OSCILLATION LIMIT = 119.5
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1218
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3135
 HT FLOW CONVERGENCE VALUE= .3678E-01 CRITERION= .1212 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 12 COMPLETED. CUM ITER = 877
 *** TIME = .135698E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1515E-04 OSCILLATION LIMIT = 119.6
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.425 CRITERION= .1212
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3142
 HT FLOW CONVERGENCE VALUE= .3665E-01 CRITERION= .1209 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 13 COMPLETED. CUM ITER = 878
 *** TIME = .136487E+10 TIME INC = .788940E+07


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*** RESPONSE EIGENVALUE = .1514E-04  OSCILLATION LIMIT = 119.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.077      CRITERION= .1209
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3139
  HT FLOW CONVERGENCE VALUE= .3654E-01 CRITERION= .1203    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 14 COMPLETED. CUM ITER = 879
*** TIME = .137276E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1515E-04  OSCILLATION LIMIT = 119.5
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.425      CRITERION= .1204
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3146
  HT FLOW CONVERGENCE VALUE= .3632E-01 CRITERION= .1200    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 15 COMPLETED. CUM ITER = 880
*** TIME = .138065E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1514E-04  OSCILLATION LIMIT = 119.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.077      CRITERION= .1200
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3144
  HT FLOW CONVERGENCE VALUE= .3624E-01 CRITERION= .1194    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 16 COMPLETED. CUM ITER = 881
*** TIME = .138853E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1514E-04  OSCILLATION LIMIT = 119.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.425      CRITERION= .1195
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3150
  HT FLOW CONVERGENCE VALUE= .3606E-01 CRITERION= .1191    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 17 COMPLETED. CUM ITER = 882
*** TIME = .139642E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1513E-04  OSCILLATION LIMIT = 119.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.077      CRITERION= .1192
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3148
  HT FLOW CONVERGENCE VALUE= .3597E-01 CRITERION= .1185    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 18 COMPLETED. CUM ITER = 883
*** TIME = .140431E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1513E-04  OSCILLATION LIMIT = 119.4
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.425      CRITERION= .1186
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3154
  HT FLOW CONVERGENCE VALUE= .3578E-01 CRITERION= .1182    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 19 COMPLETED. CUM ITER = 884
*** TIME = .141220E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1512E-04  OSCILLATION LIMIT = 119.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.077      CRITERION= .1183
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3152
  HT FLOW CONVERGENCE VALUE= .3575E-01 CRITERION= .1177    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 26 SUBSTEP 20 COMPLETED. CUM ITER = 885
*** TIME = .142009E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1513E-04  OSCILLATION LIMIT = 119.3
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

  HT FLOW CONVERGENCE VALUE= 4.425      CRITERION= .1177
  EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3158
  HT FLOW CONVERGENCE VALUE= .3558E-01 CRITERION= .1174    <<< CONVERGED
  >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 26 SUBSTEP 21 COMPLETED. CUM ITER = 886
 *** TIME = .142798E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1512E-04 OSCILLATION LIMIT = 119.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1174
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3155
 HT FLOW CONVERGENCE VALUE= .3555E-01 CRITERION= .1168 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 22 COMPLETED. CUM ITER = 887
 *** TIME = .143587E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1512E-04 OSCILLATION LIMIT = 119.3
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1168
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3162
 HT FLOW CONVERGENCE VALUE= .3540E-01 CRITERION= .1165 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 23 COMPLETED. CUM ITER = 888
 *** TIME = .144376E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1511E-04 OSCILLATION LIMIT = 119.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1165
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3159
 HT FLOW CONVERGENCE VALUE= .3534E-01 CRITERION= .1159 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 24 COMPLETED. CUM ITER = 889
 *** TIME = .145165E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1511E-04 OSCILLATION LIMIT = 119.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1160
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3166
 HT FLOW CONVERGENCE VALUE= .3514E-01 CRITERION= .1156 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 25 COMPLETED. CUM ITER = 890
 *** TIME = .145954E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1510E-04 OSCILLATION LIMIT = 119.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1156
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3163
 HT FLOW CONVERGENCE VALUE= .3510E-01 CRITERION= .1150 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 26 COMPLETED. CUM ITER = 891
 *** TIME = .146743E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1511E-04 OSCILLATION LIMIT = 119.2
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1151
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3170
 HT FLOW CONVERGENCE VALUE= .3490E-01 CRITERION= .1147 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 27 COMPLETED. CUM ITER = 892
 *** TIME = .147532E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1510E-04 OSCILLATION LIMIT = 119.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1148
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3167
 HT FLOW CONVERGENCE VALUE= .3486E-01 CRITERION= .1141 <<< CONVERGED

>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 26 SUBSTEP 28 COMPLETED. CUM ITER = 893
 *** TIME = .148321E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1510E-04 OSCILLATION LIMIT = 119.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1142
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3174

HT FLOW CONVERGENCE VALUE= .3471E-01 CRITERION= .1138 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 29 COMPLETED. CUM ITER = 894
 *** TIME = .149110E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1509E-04 OSCILLATION LIMIT = 119.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1139
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3171
 HT FLOW CONVERGENCE VALUE= .3468E-01 CRITERION= .1133 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 30 COMPLETED. CUM ITER = 895
 *** TIME = .149899E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1509E-04 OSCILLATION LIMIT = 119.1
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1133
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3178
 HT FLOW CONVERGENCE VALUE= .3450E-01 CRITERION= .1130 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 31 COMPLETED. CUM ITER = 896
 *** TIME = .150688E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1508E-04 OSCILLATION LIMIT = 119.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1130
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3175
 HT FLOW CONVERGENCE VALUE= .3448E-01 CRITERION= .1124 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 32 COMPLETED. CUM ITER = 897
 *** TIME = .151476E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1509E-04 OSCILLATION LIMIT = 119.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1124
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3182
 HT FLOW CONVERGENCE VALUE= .3432E-01 CRITERION= .1121 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 33 COMPLETED. CUM ITER = 898
 *** TIME = .152265E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1508E-04 OSCILLATION LIMIT = 119.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1121
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3180
 HT FLOW CONVERGENCE VALUE= .3425E-01 CRITERION= .1115 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 34 COMPLETED. CUM ITER = 899
 *** TIME = .153054E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1508E-04 OSCILLATION LIMIT = 119.0
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1116
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3186
 HT FLOW CONVERGENCE VALUE= .3405E-01 CRITERION= .1112 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 35 COMPLETED. CUM ITER = 900
 *** TIME = .153843E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1507E-04 OSCILLATION LIMIT = 118.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1113
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3184
 HT FLOW CONVERGENCE VALUE= .3401E-01 CRITERION= .1106 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 36 COMPLETED. CUM ITER = 901
 *** TIME = .154632E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1507E-04 OSCILLATION LIMIT = 118.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1107
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3190
 HT FLOW CONVERGENCE VALUE= .3373E-01 CRITERION= .1103 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 37 COMPLETED. CUM ITER = 902
 *** TIME = .155421E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1506E-04 OSCILLATION LIMIT = 118.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1104
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3188
 HT FLOW CONVERGENCE VALUE= .3359E-01 CRITERION= .1098 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 38 COMPLETED. CUM ITER = 903
 *** TIME = .156210E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1507E-04 OSCILLATION LIMIT = 118.9
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.424 CRITERION= .1098
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3196
 HT FLOW CONVERGENCE VALUE= .3338E-01 CRITERION= .1094 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 39 COMPLETED. CUM ITER = 904
 *** TIME = .156999E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1506E-04 OSCILLATION LIMIT = 118.8
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 4.077 CRITERION= .1095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.3194
 HT FLOW CONVERGENCE VALUE= .3331E-01 CRITERION= .1089 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 26 SUBSTEP 40 COMPLETED. CUM ITER = 905
 *** TIME = .157788E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1506E-04 OSCILLATION LIMIT = 118.8

***** ANSYS SOLVE COMMAND *****
 1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 22:48:52 JUN 12, 1995 CP= 45381.610
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1089
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2639
 HT FLOW CONVERGENCE VALUE= .2902E-01 CRITERION= .1087 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 1 COMPLETED. CUM ITER = 906
 *** TIME = .158577E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 98.29
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1086
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2645
 HT FLOW CONVERGENCE VALUE= .2875E-01 CRITERION= .1082 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 2 COMPLETED. CUM ITER = 907
 *** TIME = .159366E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 98.75
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1082
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2668
 HT FLOW CONVERGENCE VALUE= .2874E-01 CRITERION= .1080 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 27 SUBSTEP 3 COMPLETED. CUM ITER = 908
 *** TIME = .160155E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 98.78

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1080
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2648
HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .1075 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 4 COMPLETED. CUM ITER = 909
*** TIME = .160944E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 98.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1075
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2670
HT FLOW CONVERGENCE VALUE= .2853E-01 CRITERION= .1073 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 5 COMPLETED. CUM ITER = 910
*** TIME = .161733E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1252E-04 OSCILLATION LIMIT = 98.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1073
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2652
HT FLOW CONVERGENCE VALUE= .2837E-01 CRITERION= .1068 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 6 COMPLETED. CUM ITER = 911
*** TIME = .162522E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 98.69
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1068
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2673
HT FLOW CONVERGENCE VALUE= .2830E-01 CRITERION= .1066 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 7 COMPLETED. CUM ITER = 912
*** TIME = .163311E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 98.72
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1066
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2656
HT FLOW CONVERGENCE VALUE= .2819E-01 CRITERION= .1061 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 8 COMPLETED. CUM ITER = 913
*** TIME = .164100E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 98.65
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1061
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2676
HT FLOW CONVERGENCE VALUE= .2814E-01 CRITERION= .1059 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 9 COMPLETED. CUM ITER = 914
*** TIME = .164888E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1251E-04 OSCILLATION LIMIT = 98.67
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1059
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2660
HT FLOW CONVERGENCE VALUE= .2799E-01 CRITERION= .1054 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 10 COMPLETED. CUM ITER = 915
*** TIME = .165677E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1250E-04 OSCILLATION LIMIT = 98.61
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1054
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2679
HT FLOW CONVERGENCE VALUE= .2795E-01 CRITERION= .1052 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 11 COMPLETED. CUM ITER = 916

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*** TIME = .166466E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1250E-04    OSCILLATION LIMIT = 98.64
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.848    CRITERION= .1052
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2663
    HT FLOW CONVERGENCE VALUE= .2785E-01    CRITERION= .1047    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 12 COMPLETED. CUM ITER = 917
*** TIME = .167255E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1250E-04    OSCILLATION LIMIT = 98.58
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.502    CRITERION= .1047
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2681
    HT FLOW CONVERGENCE VALUE= .2780E-01    CRITERION= .1045    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 13 COMPLETED. CUM ITER = 918
*** TIME = .168044E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1250E-04    OSCILLATION LIMIT = 98.60
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.848    CRITERION= .1045
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2666
    HT FLOW CONVERGENCE VALUE= .2769E-01    CRITERION= .1040    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 14 COMPLETED. CUM ITER = 919
*** TIME = .168833E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1249E-04    OSCILLATION LIMIT = 98.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.502    CRITERION= .1040
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2683
    HT FLOW CONVERGENCE VALUE= .2761E-01    CRITERION= .1038    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 15 COMPLETED. CUM ITER = 920
*** TIME = .169622E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1249E-04    OSCILLATION LIMIT = 98.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.848    CRITERION= .1038
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2669
    HT FLOW CONVERGENCE VALUE= .2754E-01    CRITERION= .1033    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 16 COMPLETED. CUM ITER = 921
*** TIME = .170411E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1249E-04    OSCILLATION LIMIT = 98.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.502    CRITERION= .1033
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2686
    HT FLOW CONVERGENCE VALUE= .2746E-01    CRITERION= .1031    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 17 COMPLETED. CUM ITER = 922
*** TIME = .171200E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1249E-04    OSCILLATION LIMIT = 98.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.848    CRITERION= .1031
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2673
    HT FLOW CONVERGENCE VALUE= .2736E-01    CRITERION= .1027    <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 18 COMPLETED. CUM ITER = 923
*** TIME = .171989E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1248E-04    OSCILLATION LIMIT = 98.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 1.502    CRITERION= .1027
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2688
    HT FLOW CONVERGENCE VALUE= .2727E-01    CRITERION= .1024    <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 19 COMPLETED. CUM ITER = 924
*** TIME = .172778E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1249E-04 OSCILLATION LIMIT = 98.51
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1024
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2676
HT FLOW CONVERGENCE VALUE= .2721E-01 CRITERION= .1020 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 20 COMPLETED. CUM ITER = 925
*** TIME = .173567E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 98.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1020
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2691
HT FLOW CONVERGENCE VALUE= .2714E-01 CRITERION= .1017 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 21 COMPLETED. CUM ITER = 926
*** TIME = .174356E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 98.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1017
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2679
HT FLOW CONVERGENCE VALUE= .2704E-01 CRITERION= .1013 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 22 COMPLETED. CUM ITER = 927
*** TIME = .175145E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 98.42
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1013
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2694
HT FLOW CONVERGENCE VALUE= .2698E-01 CRITERION= .1011 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 23 COMPLETED. CUM ITER = 928
*** TIME = .175934E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1248E-04 OSCILLATION LIMIT = 98.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1011
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2683
HT FLOW CONVERGENCE VALUE= .2689E-01 CRITERION= .1006 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 24 COMPLETED. CUM ITER = 929
*** TIME = .176723E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .1006
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2697
HT FLOW CONVERGENCE VALUE= .2682E-01 CRITERION= .1004 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 25 COMPLETED. CUM ITER = 930
*** TIME = .177512E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.41
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .1004
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2686
HT FLOW CONVERGENCE VALUE= .2674E-01 CRITERION= .9990E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 26 COMPLETED. CUM ITER = 931
*** TIME = .178300E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.36
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .9989E-01
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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2699
HT FLOW CONVERGENCE VALUE= .2665E-01 CRITERION= .9968E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 27 COMPLETED. CUM ITER = 932
*** TIME = .179089E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .9968E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2689
HT FLOW CONVERGENCE VALUE= .2659E-01 CRITERION= .9921E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 28 COMPLETED. CUM ITER = 933
*** TIME = .179878E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 98.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .9920E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2702
HT FLOW CONVERGENCE VALUE= .2650E-01 CRITERION= .9899E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 29 COMPLETED. CUM ITER = 934
*** TIME = .180667E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1247E-04 OSCILLATION LIMIT = 98.34
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .9899E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2692
HT FLOW CONVERGENCE VALUE= .2641E-01 CRITERION= .9852E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 30 COMPLETED. CUM ITER = 935
*** TIME = .181456E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 98.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .9851E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2705
HT FLOW CONVERGENCE VALUE= .2636E-01 CRITERION= .9830E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 31 COMPLETED. CUM ITER = 936
*** TIME = .182245E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 98.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .9829E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2695
HT FLOW CONVERGENCE VALUE= .2632E-01 CRITERION= .9783E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 32 COMPLETED. CUM ITER = 937
*** TIME = .183034E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .9782E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2707
HT FLOW CONVERGENCE VALUE= .2622E-01 CRITERION= .9761E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 33 COMPLETED. CUM ITER = 938
*** TIME = .183823E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1246E-04 OSCILLATION LIMIT = 98.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .9760E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2698
HT FLOW CONVERGENCE VALUE= .2614E-01 CRITERION= .9713E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 34 COMPLETED. CUM ITER = 939
*** TIME = .184612E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .9713E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2710
HT FLOW CONVERGENCE VALUE= .2601E-01 CRITERION= .9692E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 35 COMPLETED. CUM ITER = 940
*** TIME = .185401E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.23
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .9691E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2702
HT FLOW CONVERGENCE VALUE= .2598E-01 CRITERION= .9644E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 36 COMPLETED. CUM ITER = 941
*** TIME = .186190E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1244E-04 OSCILLATION LIMIT = 98.18
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .9644E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2712
HT FLOW CONVERGENCE VALUE= .2586E-01 CRITERION= .9623E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 37 COMPLETED. CUM ITER = 942
*** TIME = .186979E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1245E-04 OSCILLATION LIMIT = 98.20
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .9622E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2705
HT FLOW CONVERGENCE VALUE= .2577E-01 CRITERION= .9575E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 38 COMPLETED. CUM ITER = 943
*** TIME = .187768E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1244E-04 OSCILLATION LIMIT = 98.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.502 CRITERION= .9575E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2715
HT FLOW CONVERGENCE VALUE= .2566E-01 CRITERION= .9554E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 39 COMPLETED. CUM ITER = 944
*** TIME = .188557E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1244E-04 OSCILLATION LIMIT = 98.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 1.848 CRITERION= .9553E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2708
HT FLOW CONVERGENCE VALUE= .2561E-01 CRITERION= .9506E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 27 SUBSTEP 40 COMPLETED. CUM ITER = 945
*** TIME = .189346E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1244E-04 OSCILLATION LIMIT = 98.11

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 23:23:00 JUN 12, 1995 CP= 47413.250
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9521E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2312
HT FLOW CONVERGENCE VALUE= .2321E-01 CRITERION= .9491E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 1 COMPLETED. CUM ITER = 946
*** TIME = .190135E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.79
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9507E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2310
 HT FLOW CONVERGENCE VALUE= .2304E-01 CRITERION= .9450E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 2 COMPLETED. CUM ITER = 947
 *** TIME = .190923E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 79.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9465E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2332
 HT FLOW CONVERGENCE VALUE= .2305E-01 CRITERION= .9435E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 3 COMPLETED. CUM ITER = 948
 *** TIME = .191712E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1016E-04 OSCILLATION LIMIT = 80.18
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9451E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2313
 HT FLOW CONVERGENCE VALUE= .2294E-01 CRITERION= .9395E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 4 COMPLETED. CUM ITER = 949
 *** TIME = .192501E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 79.96
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9410E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2334
 HT FLOW CONVERGENCE VALUE= .2292E-01 CRITERION= .9379E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 5 COMPLETED. CUM ITER = 950
 *** TIME = .193290E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1016E-04 OSCILLATION LIMIT = 80.17
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9396E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2316
 HT FLOW CONVERGENCE VALUE= .2282E-01 CRITERION= .9339E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 6 COMPLETED. CUM ITER = 951
 *** TIME = .194079E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9354E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2335
 HT FLOW CONVERGENCE VALUE= .2280E-01 CRITERION= .9324E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 7 COMPLETED. CUM ITER = 952
 *** TIME = .194868E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1016E-04 OSCILLATION LIMIT = 80.15
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9340E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2318
 HT FLOW CONVERGENCE VALUE= .2274E-01 CRITERION= .9283E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 8 COMPLETED. CUM ITER = 953
 *** TIME = .195657E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.94
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9298E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2337
 HT FLOW CONVERGENCE VALUE= .2271E-01 CRITERION= .9268E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 28 SUBSTEP 9 COMPLETED. CUM ITER = 954
*** TIME = .196446E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1016E-04 OSCILLATION LIMIT = 80.13
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9284E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2321
HT FLOW CONVERGENCE VALUE= .2262E-01 CRITERION= .9227E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 10 COMPLETED. CUM ITER = 955
*** TIME = .197235E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9243E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2339
HT FLOW CONVERGENCE VALUE= .2258E-01 CRITERION= .9212E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 11 COMPLETED. CUM ITER = 956
*** TIME = .198024E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1015E-04 OSCILLATION LIMIT = 80.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9229E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2324
HT FLOW CONVERGENCE VALUE= .2251E-01 CRITERION= .9172E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 12 COMPLETED. CUM ITER = 957
*** TIME = .198813E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9187E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2341
HT FLOW CONVERGENCE VALUE= .2247E-01 CRITERION= .9156E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 13 COMPLETED. CUM ITER = 958
*** TIME = .199602E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1015E-04 OSCILLATION LIMIT = 80.10
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9173E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2326
HT FLOW CONVERGENCE VALUE= .2239E-01 CRITERION= .9116E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 14 COMPLETED. CUM ITER = 959
*** TIME = .200391E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9131E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2342
HT FLOW CONVERGENCE VALUE= .2235E-01 CRITERION= .9101E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 15 COMPLETED. CUM ITER = 960
*** TIME = .201180E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1015E-04 OSCILLATION LIMIT = 80.08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9117E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2329
HT FLOW CONVERGENCE VALUE= .2227E-01 CRITERION= .9060E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 28 SUBSTEP 16 COMPLETED. CUM ITER = 961
*** TIME = .201969E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9076E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2344

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HT FLOW CONVERGENCE VALUE= .2221E-01 CRITERION= .9045E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 17 COMPLETED. CUM ITER = 962
 *** TIME = .202758E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1015E-04 OSCILLATION LIMIT = 80.06
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9062E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2331
 HT FLOW CONVERGENCE VALUE= .2214E-01 CRITERION= .9004E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 18 COMPLETED. CUM ITER = 963
 *** TIME = .203547E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.89
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .9020E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2346
 HT FLOW CONVERGENCE VALUE= .2207E-01 CRITERION= .8989E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 19 COMPLETED. CUM ITER = 964
 *** TIME = .204335E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1015E-04 OSCILLATION LIMIT = 80.05
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .9006E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2334
 HT FLOW CONVERGENCE VALUE= .2202E-01 CRITERION= .8949E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 20 COMPLETED. CUM ITER = 965
 *** TIME = .205124E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 79.87
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8964E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2348
 HT FLOW CONVERGENCE VALUE= .2196E-01 CRITERION= .8933E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 21 COMPLETED. CUM ITER = 966
 *** TIME = .205913E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 80.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8950E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2336
 HT FLOW CONVERGENCE VALUE= .2189E-01 CRITERION= .8893E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 22 COMPLETED. CUM ITER = 967
 *** TIME = .206702E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 79.86
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8909E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2350
 HT FLOW CONVERGENCE VALUE= .2182E-01 CRITERION= .8878E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 23 COMPLETED. CUM ITER = 968
 *** TIME = .207491E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 80.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8895E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2339
 HT FLOW CONVERGENCE VALUE= .2176E-01 CRITERION= .8837E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 24 COMPLETED. CUM ITER = 969
 *** TIME = .208280E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 79.85
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8853E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2352
 HT FLOW CONVERGENCE VALUE= .2169E-01 CRITERION= .8822E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 25 COMPLETED. CUM ITER = 970
 *** TIME = .209069E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 80.00
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8839E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2342
 HT FLOW CONVERGENCE VALUE= .2164E-01 CRITERION= .8781E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 26 COMPLETED. CUM ITER = 971
 *** TIME = .209858E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 79.84
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8797E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2354
 HT FLOW CONVERGENCE VALUE= .2156E-01 CRITERION= .8766E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 27 COMPLETED. CUM ITER = 972
 *** TIME = .210647E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 79.98
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8783E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2344
 HT FLOW CONVERGENCE VALUE= .2151E-01 CRITERION= .8726E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 28 COMPLETED. CUM ITER = 973
 *** TIME = .211436E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 79.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8742E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2356
 HT FLOW CONVERGENCE VALUE= .2142E-01 CRITERION= .8710E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 29 COMPLETED. CUM ITER = 974
 *** TIME = .212225E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1014E-04 OSCILLATION LIMIT = 79.97
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8728E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2347
 HT FLOW CONVERGENCE VALUE= .2136E-01 CRITERION= .8670E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 30 COMPLETED. CUM ITER = 975
 *** TIME = .213014E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 79.82
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8686E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2358
 HT FLOW CONVERGENCE VALUE= .2128E-01 CRITERION= .8655E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 31 COMPLETED. CUM ITER = 976
 *** TIME = .213803E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.95
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8672E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2349
 HT FLOW CONVERGENCE VALUE= .2122E-01 CRITERION= .8614E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 28 SUBSTEP 32 COMPLETED. CUM ITER = 977
 *** TIME = .214592E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .1012E-04 OSCILLATION LIMIT = 79.80

*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8630E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2360
HT FLOW CONVERGENCE VALUE= .2113E-01 CRITERION= .8599E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 33 COMPLETED. CUM ITER = 978
*** TIME = .215381E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8616E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2351
HT FLOW CONVERGENCE VALUE= .2107E-01 CRITERION= .8558E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 34 COMPLETED. CUM ITER = 979
*** TIME = .216170E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.473 CRITERION= .8575E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2362
HT FLOW CONVERGENCE VALUE= .2098E-01 CRITERION= .8543E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 35 COMPLETED. CUM ITER = 980
*** TIME = .216959E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.93
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8561E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2354
HT FLOW CONVERGENCE VALUE= .2092E-01 CRITERION= .8503E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 36 COMPLETED. CUM ITER = 981
*** TIME = .217747E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.78
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.474 CRITERION= .8519E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2364
HT FLOW CONVERGENCE VALUE= .2083E-01 CRITERION= .8487E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 37 COMPLETED. CUM ITER = 982
*** TIME = .218536E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8505E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2356
HT FLOW CONVERGENCE VALUE= .2076E-01 CRITERION= .8447E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 38 COMPLETED. CUM ITER = 983
*** TIME = .219325E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.77
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.474 CRITERION= .8464E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2366
HT FLOW CONVERGENCE VALUE= .2064E-01 CRITERION= .8432E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 39 COMPLETED. CUM ITER = 984
*** TIME = .220114E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1013E-04 OSCILLATION LIMIT = 79.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 5.823 CRITERION= .8450E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2359
HT FLOW CONVERGENCE VALUE= .2058E-01 CRITERION= .8391E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

*** LOAD STEP 28 SUBSTEP 40 COMPLETED. CUM ITER = 985

*** TIME = .220903E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .1011E-04 OSCILLATION LIMIT = 79.76

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 23:57:06 JUN 12, 1995 CP= 49447.150
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8457E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2111
HT FLOW CONVERGENCE VALUE= .2048E-01 CRITERION= .8381E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 1 COMPLETED. CUM ITER = 986
*** TIME = .221692E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7147E-05 OSCILLATION LIMIT = 56.38
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8449E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2101
HT FLOW CONVERGENCE VALUE= .2031E-01 CRITERION= .8346E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 2 COMPLETED. CUM ITER = 987
*** TIME = .222481E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7125E-05 OSCILLATION LIMIT = 56.21
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8412E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2117
HT FLOW CONVERGENCE VALUE= .2026E-01 CRITERION= .8336E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 3 COMPLETED. CUM ITER = 988
*** TIME = .223270E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7165E-05 OSCILLATION LIMIT = 56.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8404E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2103
HT FLOW CONVERGENCE VALUE= .2023E-01 CRITERION= .8300E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 4 COMPLETED. CUM ITER = 989
*** TIME = .224059E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7129E-05 OSCILLATION LIMIT = 56.24
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8367E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2118
HT FLOW CONVERGENCE VALUE= .2016E-01 CRITERION= .8290E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 5 COMPLETED. CUM ITER = 990
*** TIME = .224848E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7165E-05 OSCILLATION LIMIT = 56.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8359E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2106
HT FLOW CONVERGENCE VALUE= .2012E-01 CRITERION= .8255E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 6 COMPLETED. CUM ITER = 991
*** TIME = .225637E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7130E-05 OSCILLATION LIMIT = 56.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8322E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2119
HT FLOW CONVERGENCE VALUE= .2006E-01 CRITERION= .8245E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 7 COMPLETED. CUM ITER = 992
*** TIME = .226426E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7165E-05 OSCILLATION LIMIT = 56.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8314E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2108
HT FLOW CONVERGENCE VALUE= .2002E-01 CRITERION= .8210E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 8 COMPLETED. CUM ITER = 993
*** TIME = .227215E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7132E-05 OSCILLATION LIMIT = 56.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8277E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2121
HT FLOW CONVERGENCE VALUE= .1995E-01 CRITERION= .8200E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 9 COMPLETED. CUM ITER = 994
*** TIME = .228004E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7166E-05 OSCILLATION LIMIT = 56.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8269E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2110
HT FLOW CONVERGENCE VALUE= .1993E-01 CRITERION= .8164E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 10 COMPLETED. CUM ITER = 995
*** TIME = .228793E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7133E-05 OSCILLATION LIMIT = 56.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8232E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2122
HT FLOW CONVERGENCE VALUE= .1986E-01 CRITERION= .8154E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 11 COMPLETED. CUM ITER = 996
*** TIME = .229582E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7166E-05 OSCILLATION LIMIT = 56.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8225E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2112
HT FLOW CONVERGENCE VALUE= .1982E-01 CRITERION= .8119E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 12 COMPLETED. CUM ITER = 997
*** TIME = .230370E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7134E-05 OSCILLATION LIMIT = 56.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8187E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2124
HT FLOW CONVERGENCE VALUE= .1974E-01 CRITERION= .8109E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 13 COMPLETED. CUM ITER = 998
*** TIME = .231159E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7166E-05 OSCILLATION LIMIT = 56.53
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8180E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2114
HT FLOW CONVERGENCE VALUE= .1969E-01 CRITERION= .8074E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 14 COMPLETED. CUM ITER = 999
*** TIME = .231948E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7136E-05 OSCILLATION LIMIT = 56.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8142E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2126
HT FLOW CONVERGENCE VALUE= .1960E-01 CRITERION= .8064E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 15 COMPLETED. CUM ITER = 1000
*** TIME = .232737E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7166E-05 OSCILLATION LIMIT = 56.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8135E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2117
HT FLOW CONVERGENCE VALUE= .1957E-01 CRITERION= .8028E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 16 COMPLETED. CUM ITER = 1001
*** TIME = .233526E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7137E-05 OSCILLATION LIMIT = 56.31
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8097E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2128
HT FLOW CONVERGENCE VALUE= .1949E-01 CRITERION= .8018E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 17 COMPLETED. CUM ITER = 1002
*** TIME = .234315E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7167E-05 OSCILLATION LIMIT = 56.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8090E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2119
HT FLOW CONVERGENCE VALUE= .1946E-01 CRITERION= .7983E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 18 COMPLETED. CUM ITER = 1003
*** TIME = .235104E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7138E-05 OSCILLATION LIMIT = 56.32
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8052E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2130
HT FLOW CONVERGENCE VALUE= .1938E-01 CRITERION= .7973E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 19 COMPLETED. CUM ITER = 1004
*** TIME = .235893E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7167E-05 OSCILLATION LIMIT = 56.54
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8045E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2121
HT FLOW CONVERGENCE VALUE= .1938E-01 CRITERION= .7937E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 20 COMPLETED. CUM ITER = 1005
*** TIME = .236682E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7139E-05 OSCILLATION LIMIT = 56.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .8007E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2132
HT FLOW CONVERGENCE VALUE= .1931E-01 CRITERION= .7927E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 21 COMPLETED. CUM ITER = 1006
*** TIME = .237471E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7167E-05 OSCILLATION LIMIT = 56.55
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .8000E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2124
HT FLOW CONVERGENCE VALUE= .1932E-01 CRITERION= .7892E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 22 COMPLETED. CUM ITER = 1007
*** TIME = .238260E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7140E-05 OSCILLATION LIMIT = 56.33
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7962E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2133
 HT FLOW CONVERGENCE VALUE= .1924E-01 CRITERION= .7882E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 23 COMPLETED. CUM ITER = 1008
 *** TIME = .239049E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7167E-05 OSCILLATION LIMIT = 56.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7955E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2126
 HT FLOW CONVERGENCE VALUE= .1923E-01 CRITERION= .7847E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 24 COMPLETED. CUM ITER = 1009
 *** TIME = .239838E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7141E-05 OSCILLATION LIMIT = 56.34
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7917E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2135
 HT FLOW CONVERGENCE VALUE= .1916E-01 CRITERION= .7837E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 25 COMPLETED. CUM ITER = 1010
 *** TIME = .240627E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7168E-05 OSCILLATION LIMIT = 56.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7910E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2128
 HT FLOW CONVERGENCE VALUE= .1915E-01 CRITERION= .7801E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 26 COMPLETED. CUM ITER = 1011
 *** TIME = .241416E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7142E-05 OSCILLATION LIMIT = 56.35
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7873E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2137
 HT FLOW CONVERGENCE VALUE= .1906E-01 CRITERION= .7791E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 27 COMPLETED. CUM ITER = 1012
 *** TIME = .242205E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7168E-05 OSCILLATION LIMIT = 56.55
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7865E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2130
 HT FLOW CONVERGENCE VALUE= .1904E-01 CRITERION= .7756E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 28 COMPLETED. CUM ITER = 1013
 *** TIME = .242994E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7143E-05 OSCILLATION LIMIT = 56.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7828E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2139
 HT FLOW CONVERGENCE VALUE= .1894E-01 CRITERION= .7746E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 29 COMPLETED. CUM ITER = 1014
 *** TIME = .243782E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7169E-05 OSCILLATION LIMIT = 56.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7820E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2133
 HT FLOW CONVERGENCE VALUE= .1891E-01 CRITERION= .7711E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 30 COMPLETED. CUM ITER = 1015
 *** TIME = .244571E+10 TIME INC = .788940E+07

*** RESPONSE EIGENVALUE = .7144E-05 OSCILLATION LIMIT = 56.36
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7783E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2141
 HT FLOW CONVERGENCE VALUE= .1880E-01 CRITERION= .7701E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 31 COMPLETED. CUM ITER = 1016
 *** TIME = .245360E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7169E-05 OSCILLATION LIMIT = 56.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7775E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2135
 HT FLOW CONVERGENCE VALUE= .1875E-01 CRITERION= .7665E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 32 COMPLETED. CUM ITER = 1017
 *** TIME = .246149E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7145E-05 OSCILLATION LIMIT = 56.37
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7738E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2143
 HT FLOW CONVERGENCE VALUE= .1868E-01 CRITERION= .7655E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 33 COMPLETED. CUM ITER = 1018
 *** TIME = .246938E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7169E-05 OSCILLATION LIMIT = 56.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7730E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2137
 HT FLOW CONVERGENCE VALUE= .1862E-01 CRITERION= .7620E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 34 COMPLETED. CUM ITER = 1019
 *** TIME = .247727E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7146E-05 OSCILLATION LIMIT = 56.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7693E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2145
 HT FLOW CONVERGENCE VALUE= .1851E-01 CRITERION= .7610E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 35 COMPLETED. CUM ITER = 1020
 *** TIME = .248516E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7170E-05 OSCILLATION LIMIT = 56.56
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7685E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2140
 HT FLOW CONVERGENCE VALUE= .1846E-01 CRITERION= .7575E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 36 COMPLETED. CUM ITER = 1021
 *** TIME = .249305E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7147E-05 OSCILLATION LIMIT = 56.38
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7648E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2147
 HT FLOW CONVERGENCE VALUE= .1837E-01 CRITERION= .7565E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 29 SUBSTEP 37 COMPLETED. CUM ITER = 1022
 *** TIME = .250094E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .7170E-05 OSCILLATION LIMIT = 56.57
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7641E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2142
 HT FLOW CONVERGENCE VALUE= .1837E-01 CRITERION= .7529E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1

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*** LOAD STEP 29 SUBSTEP 38 COMPLETED. CUM ITER = 1023
*** TIME = .250883E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7148E-05 OSCILLATION LIMIT = 56.39
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 10.56 CRITERION= .7603E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2149
HT FLOW CONVERGENCE VALUE= .1828E-01 CRITERION= .7519E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 39 COMPLETED. CUM ITER = 1024
*** TIME = .251672E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7170E-05 OSCILLATION LIMIT = 56.57
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 10.91 CRITERION= .7596E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.2144
HT FLOW CONVERGENCE VALUE= .1831E-01 CRITERION= .7484E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 29 SUBSTEP 40 COMPLETED. CUM ITER = 1025
*** TIME = .252461E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .7148E-05 OSCILLATION LIMIT = 56.40
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 00:31:13 JUN 13, 1995 CP= 51481.410
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844
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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 9.185 CRITERION= .7540E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1701
HT FLOW CONVERGENCE VALUE= .1483E-01 CRITERION= .7479E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 1 COMPLETED. CUM ITER = 1026
*** TIME = .253250E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6686E-05 OSCILLATION LIMIT = 52.75
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7537E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1710
HT FLOW CONVERGENCE VALUE= .1486E-01 CRITERION= .7448E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 2 COMPLETED. CUM ITER = 1027
*** TIME = .254039E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6712E-05 OSCILLATION LIMIT = 52.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 9.185 CRITERION= .7505E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1731
HT FLOW CONVERGENCE VALUE= .1488E-01 CRITERION= .7443E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 3 COMPLETED. CUM ITER = 1028
*** TIME = .254828E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6779E-05 OSCILLATION LIMIT = 53.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7502E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1710
HT FLOW CONVERGENCE VALUE= .1480E-01 CRITERION= .7413E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 4 COMPLETED. CUM ITER = 1029
*** TIME = .255617E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6711E-05 OSCILLATION LIMIT = 52.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED
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HT FLOW CONVERGENCE VALUE= 9.185 CRITERION= .7469E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1732
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HT FLOW CONVERGENCE VALUE= .1480E-01 CRITERION= .7407E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 5 COMPLETED. CUM ITER = 1030
*** TIME = .256406E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6778E-05 OSCILLATION LIMIT = 53.48
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7466E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1712
HT FLOW CONVERGENCE VALUE= .1473E-01 CRITERION= .7377E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 6 COMPLETED. CUM ITER = 1031
*** TIME = .257194E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6713E-05 OSCILLATION LIMIT = 52.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.185 CRITERION= .7434E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1732
HT FLOW CONVERGENCE VALUE= .1474E-01 CRITERION= .7372E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 7 COMPLETED. CUM ITER = 1032
*** TIME = .257983E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6777E-05 OSCILLATION LIMIT = 53.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7431E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1714
HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .7341E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 8 COMPLETED. CUM ITER = 1033
*** TIME = .258772E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6715E-05 OSCILLATION LIMIT = 52.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.186 CRITERION= .7398E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1733
HT FLOW CONVERGENCE VALUE= .1467E-01 CRITERION= .7336E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 9 COMPLETED. CUM ITER = 1034
*** TIME = .259561E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6777E-05 OSCILLATION LIMIT = 53.47
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7395E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1716
HT FLOW CONVERGENCE VALUE= .1460E-01 CRITERION= .7305E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 10 COMPLETED. CUM ITER = 1035
*** TIME = .260350E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6717E-05 OSCILLATION LIMIT = 53.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.186 CRITERION= .7363E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1734
HT FLOW CONVERGENCE VALUE= .1459E-01 CRITERION= .7300E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 11 COMPLETED. CUM ITER = 1036
*** TIME = .261139E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6776E-05 OSCILLATION LIMIT = 53.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7360E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1717
HT FLOW CONVERGENCE VALUE= .1452E-01 CRITERION= .7270E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 12 COMPLETED. CUM ITER = 1037
*** TIME = .261928E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6719E-05 OSCILLATION LIMIT = 53.01
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 9.186      CRITERION= .7328E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1734
HT FLOW CONVERGENCE VALUE= .1451E-01 CRITERION= .7264E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 13 COMPLETED. CUM ITER = 1038
*** TIME = .262717E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6776E-05 OSCILLATION LIMIT = 53.46
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534      CRITERION= .7325E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1719
HT FLOW CONVERGENCE VALUE= .1445E-01 CRITERION= .7234E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 14 COMPLETED. CUM ITER = 1039
*** TIME = .263506E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6721E-05 OSCILLATION LIMIT = 53.03
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.186      CRITERION= .7292E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1735
HT FLOW CONVERGENCE VALUE= .1443E-01 CRITERION= .7229E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 15 COMPLETED. CUM ITER = 1040
*** TIME = .264295E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6775E-05 OSCILLATION LIMIT = 53.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534      CRITERION= .7289E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1721
HT FLOW CONVERGENCE VALUE= .1438E-01 CRITERION= .7198E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 16 COMPLETED. CUM ITER = 1041
*** TIME = .265084E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6723E-05 OSCILLATION LIMIT = 53.04
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.186      CRITERION= .7257E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1736
HT FLOW CONVERGENCE VALUE= .1436E-01 CRITERION= .7193E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 17 COMPLETED. CUM ITER = 1042
*** TIME = .265873E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6775E-05 OSCILLATION LIMIT = 53.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534      CRITERION= .7254E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1722
HT FLOW CONVERGENCE VALUE= .1431E-01 CRITERION= .7163E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 18 COMPLETED. CUM ITER = 1043
*** TIME = .266662E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6725E-05 OSCILLATION LIMIT = 53.05
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.186      CRITERION= .7221E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
HT FLOW CONVERGENCE VALUE= .1428E-01 CRITERION= .7157E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 19 COMPLETED. CUM ITER = 1044
*** TIME = .267451E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6775E-05 OSCILLATION LIMIT = 53.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534      CRITERION= .7218E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1724
HT FLOW CONVERGENCE VALUE= .1424E-01 CRITERION= .7127E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 20 COMPLETED. CUM ITER = 1045
*** TIME = .268240E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6726E-05 OSCILLATION LIMIT = 53.07
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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.186 CRITERION= .7186E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
 HT FLOW CONVERGENCE VALUE= .1422E-01 CRITERION= .7122E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 21 COMPLETED. CUM ITER = 1046
 *** TIME = .269029E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6774E-05 OSCILLATION LIMIT = 53.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7183E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1725
 HT FLOW CONVERGENCE VALUE= .1418E-01 CRITERION= .7091E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 22 COMPLETED. CUM ITER = 1047
 *** TIME = .269817E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6728E-05 OSCILLATION LIMIT = 53.08
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.186 CRITERION= .7151E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1738
 HT FLOW CONVERGENCE VALUE= .1415E-01 CRITERION= .7086E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 23 COMPLETED. CUM ITER = 1048
 *** TIME = .270606E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6774E-05 OSCILLATION LIMIT = 53.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7148E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1727
 HT FLOW CONVERGENCE VALUE= .1412E-01 CRITERION= .7055E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 24 COMPLETED. CUM ITER = 1049
 *** TIME = .271395E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6730E-05 OSCILLATION LIMIT = 53.09
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.187 CRITERION= .7115E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739
 HT FLOW CONVERGENCE VALUE= .1409E-01 CRITERION= .7050E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 25 COMPLETED. CUM ITER = 1050
 *** TIME = .272184E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6774E-05 OSCILLATION LIMIT = 53.45
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7112E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1728
 HT FLOW CONVERGENCE VALUE= .1406E-01 CRITERION= .7020E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 26 COMPLETED. CUM ITER = 1051
 *** TIME = .272973E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6731E-05 OSCILLATION LIMIT = 53.11
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.187 CRITERION= .7080E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1739
 HT FLOW CONVERGENCE VALUE= .1403E-01 CRITERION= .7014E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 27 COMPLETED. CUM ITER = 1052
 *** TIME = .273762E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6774E-05 OSCILLATION LIMIT = 53.44
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.534 CRITERION= .7077E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1729
 HT FLOW CONVERGENCE VALUE= .1401E-01 CRITERION= .6984E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 30 SUBSTEP 28 COMPLETED. CUM ITER = 1053

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*** TIME = .274551E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6732E-05    OSCILLATION LIMIT = 53.11
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.187    CRITERION= .7044E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1740
    HT FLOW CONVERGENCE VALUE= .1397E-01    CRITERION= .6979E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 29 COMPLETED. CUM ITER = 1054
*** TIME = .275340E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6774E-05    OSCILLATION LIMIT = 53.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.535    CRITERION= .7041E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1730
    HT FLOW CONVERGENCE VALUE= .1395E-01    CRITERION= .6948E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 30 COMPLETED. CUM ITER = 1055
*** TIME = .276129E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6734E-05    OSCILLATION LIMIT = 53.12
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.187    CRITERION= .7009E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1741
    HT FLOW CONVERGENCE VALUE= .1391E-01    CRITERION= .6943E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 31 COMPLETED. CUM ITER = 1056
*** TIME = .276918E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6774E-05    OSCILLATION LIMIT = 53.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.535    CRITERION= .7006E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1732
    HT FLOW CONVERGENCE VALUE= .1389E-01    CRITERION= .6913E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 32 COMPLETED. CUM ITER = 1057
*** TIME = .277707E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6735E-05    OSCILLATION LIMIT = 53.14
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.187    CRITERION= .6974E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1742
    HT FLOW CONVERGENCE VALUE= .1384E-01    CRITERION= .6907E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 33 COMPLETED. CUM ITER = 1058
*** TIME = .278496E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6774E-05    OSCILLATION LIMIT = 53.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.535    CRITERION= .6971E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1733
    HT FLOW CONVERGENCE VALUE= .1382E-01    CRITERION= .6877E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 34 COMPLETED. CUM ITER = 1059
*** TIME = .279285E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6737E-05    OSCILLATION LIMIT = 53.15
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.187    CRITERION= .6938E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1743
    HT FLOW CONVERGENCE VALUE= .1377E-01    CRITERION= .6872E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 35 COMPLETED. CUM ITER = 1060
*** TIME = .280074E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6774E-05    OSCILLATION LIMIT = 53.44
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 9.535    CRITERION= .6935E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1735
    HT FLOW CONVERGENCE VALUE= .1376E-01    CRITERION= .6841E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 36 COMPLETED. CUM ITER = 1061
*** TIME = .280863E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6738E-05 OSCILLATION LIMIT = 53.16
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.187 CRITERION= .6903E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1743
HT FLOW CONVERGENCE VALUE= .1371E-01 CRITERION= .6836E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 37 COMPLETED. CUM ITER = 1062
*** TIME = .281652E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6774E-05 OSCILLATION LIMIT = 53.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.535 CRITERION= .6900E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1736
HT FLOW CONVERGENCE VALUE= .1369E-01 CRITERION= .6805E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 38 COMPLETED. CUM ITER = 1063
*** TIME = .282441E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6739E-05 OSCILLATION LIMIT = 53.17
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.187 CRITERION= .6867E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1744
HT FLOW CONVERGENCE VALUE= .1365E-01 CRITERION= .6800E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 39 COMPLETED. CUM ITER = 1064
*** TIME = .283229E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6775E-05 OSCILLATION LIMIT = 53.45
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 9.535 CRITERION= .6865E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1737
HT FLOW CONVERGENCE VALUE= .1363E-01 CRITERION= .6770E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 30 SUBSTEP 40 COMPLETED. CUM ITER = 1065
*** TIME = .284018E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6740E-05 OSCILLATION LIMIT = 53.18
Apply loads and solve for 100 to 1000 years
```

*DO LOOP ON PARAMETER= TM FROM .31558E+10 TO .31558E+11 BY .31558E+10

TIME= .31558E+10

SELECT FOR ITEM=MAT COMPONENT=
IN RANGE 14 TO 14 STEP 1

13 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

SELECT ELEMENTS CREATED FROM SELECTED AREAS.

2058 ELEMENTS (OF 5253 DEFINED) SELECTED FROM
13 SELECTED AREAS BY ESLA COMMAND.

SPECIFIED BODY FORCE HGEN FOR ALL SELECTED ELEMENTS AT STARTING LOCATION 1
1285.61410 .000000000E+00 .000000000E+00 .000000000E+00

ALL SELECT FOR ITEM=AREA COMPONENT=
IN RANGE 1 TO 94 STEP 1

94 AREAS (OF 94 DEFINED) SELECTED BY ASEL COMMAND.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

CONSTRAINT AT KEYPOINT 11

```

LOAD LABELS = TEMP
VALUES =      182.87      .00000E+00      EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 10
LOAD LABELS = TEMP
VALUES =      183.14      .00000E+00      EXPANSION KEY = 1

CONSTRAINT AT KEYPOINT 9
LOAD LABELS = TEMP
VALUES =      183.78      .00000E+00      EXPANSION KEY = 1

```

***** ANSYS SOLVE COMMAND *****

TRANSFER SOLID MODEL BOUNDARY CONDITIONS TO FINITE ELEMENT MODEL
CONSTRAINTS TRANSFERRED FROM KEYPOINTS = 129

*** NOTE *** CP= 53515.290 TIME= 01:05:25
Nonlinear analysis, NROPT set to 1 (full Newton-Raphson solution
procedure) for ALL DOFs.

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 01:05:25 JUN 13, 1995 CP= 53515.300
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

LOAD STEP OPTIONS

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LOAD STEP NUMBER. . . . . 31
TIME AT END OF THE LOAD STEP. . . . . .31558E+10
AUTOMATIC TIME STEPPING . . . . . ON
  INITIAL NUMBER OF SUBSTEPS . . . . . 10
  MAXIMUM NUMBER OF SUBSTEPS . . . . . 40
  MINIMUM NUMBER OF SUBSTEPS . . . . . 5
  START WITH TIME STEP FROM PREVIOUS SUBSTEP . YES
MAXIMUM NUMBER OF EQUILIBRIUM ITERATIONS. . . . 25
STEP CHANGE BOUNDARY CONDITIONS . . . . . NO
TRANSIENT (INERTIA) EFFECTS
  THERMAL DOFS . . . . . ON
TRANSIENT INTEGRATION PARAMETERS
  THETA. . . . . .50000
  OSCILLATION LIMIT CRITERION. . . . . .50000
  TOLERANCE. . . . . .20000
TERMINATE ANALYSIS IF NOT CONVERGED . . . . .YES (EXIT)
CONVERGENCE CONTROLS. . . . .USE DEFAULTS
PRINT OUTPUT CONTROLS . . . . .NO PRINTOUT
DATABASE OUTPUT CONTROLS. . . . .ALL DATA WRITTEN
                                FOR THE LAST SUBSTEP

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HT FLOW CONVERGENCE VALUE= 8.615 CRITERION= .6825E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1537
HT FLOW CONVERGENCE VALUE= .1218E-01 CRITERION= .6767E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 1 COMPLETED. CUM ITER = 1066
*** TIME = .284807E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6452E-05 OSCILLATION LIMIT = 50.90
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6824E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1535
HT FLOW CONVERGENCE VALUE= .1217E-01 CRITERION= .6738E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 2 COMPLETED. CUM ITER = 1067
*** TIME = .285596E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6438E-05 OSCILLATION LIMIT = 50.79
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 8.615 CRITERION= .6794E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1550
 HT FLOW CONVERGENCE VALUE= .1217E-01 CRITERION= .6735E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 3 COMPLETED. CUM ITER = 1068
 *** TIME = .286385E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 51.26
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6793E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1536
 HT FLOW CONVERGENCE VALUE= .1213E-01 CRITERION= .6707E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 4 COMPLETED. CUM ITER = 1069
 *** TIME = .287174E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6438E-05 OSCILLATION LIMIT = 50.80
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.616 CRITERION= .6763E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1551
 HT FLOW CONVERGENCE VALUE= .1211E-01 CRITERION= .6704E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 5 COMPLETED. CUM ITER = 1070
 *** TIME = .287963E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 51.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6762E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1538
 HT FLOW CONVERGENCE VALUE= .1207E-01 CRITERION= .6676E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 6 COMPLETED. CUM ITER = 1071
 *** TIME = .288752E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6441E-05 OSCILLATION LIMIT = 50.81
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.616 CRITERION= .6732E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1551
 HT FLOW CONVERGENCE VALUE= .1205E-01 CRITERION= .6673E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 7 COMPLETED. CUM ITER = 1072
 *** TIME = .289541E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 51.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6731E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1539
 HT FLOW CONVERGENCE VALUE= .1202E-01 CRITERION= .6645E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 8 COMPLETED. CUM ITER = 1073
 *** TIME = .290330E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6443E-05 OSCILLATION LIMIT = 50.83
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.616 CRITERION= .6701E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1552
 HT FLOW CONVERGENCE VALUE= .1200E-01 CRITERION= .6642E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 9 COMPLETED. CUM ITER = 1074
 *** TIME = .291119E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 51.25
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6700E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1540
 HT FLOW CONVERGENCE VALUE= .1196E-01 CRITERION= .6613E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 10 COMPLETED. CUM ITER = 1075
 *** TIME = .291908E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6445E-05 OSCILLATION LIMIT = 50.84

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*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.616 CRITERION= .6670E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1552
HT FLOW CONVERGENCE VALUE= .1194E-01 CRITERION= .6610E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 11 COMPLETED. CUM ITER = 1076
*** TIME = .292697E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6496E-05 OSCILLATION LIMIT = 51.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6669E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1542
HT FLOW CONVERGENCE VALUE= .1191E-01 CRITERION= .6582E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 12 COMPLETED. CUM ITER = 1077
*** TIME = .293486E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6447E-05 OSCILLATION LIMIT = 50.86
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.616 CRITERION= .6639E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1553
HT FLOW CONVERGENCE VALUE= .1188E-01 CRITERION= .6579E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 13 COMPLETED. CUM ITER = 1078
*** TIME = .294275E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 51.25
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6638E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1543
HT FLOW CONVERGENCE VALUE= .1185E-01 CRITERION= .6551E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 14 COMPLETED. CUM ITER = 1079
*** TIME = .295064E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6449E-05 OSCILLATION LIMIT = 50.88
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.616 CRITERION= .6608E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1554
HT FLOW CONVERGENCE VALUE= .1183E-01 CRITERION= .6548E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 15 COMPLETED. CUM ITER = 1080
*** TIME = .295853E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 51.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6607E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1544
HT FLOW CONVERGENCE VALUE= .1181E-01 CRITERION= .6520E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 16 COMPLETED. CUM ITER = 1081
*** TIME = .296641E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6451E-05 OSCILLATION LIMIT = 50.89
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.616 CRITERION= .6577E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1554
HT FLOW CONVERGENCE VALUE= .1178E-01 CRITERION= .6517E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 17 COMPLETED. CUM ITER = 1082
*** TIME = .297430E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6497E-05 OSCILLATION LIMIT = 51.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.963 CRITERION= .6576E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1545
HT FLOW CONVERGENCE VALUE= .1176E-01 CRITERION= .6489E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 18 COMPLETED. CUM ITER = 1083

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*** TIME = .298219E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6452E-05    OSCILLATION LIMIT = 50.91
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.616    CRITERION= .6546E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1555
    HT FLOW CONVERGENCE VALUE= .1172E-01    CRITERION= .6485E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 19 COMPLETED. CUM ITER = 1084
*** TIME = .299008E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6497E-05    OSCILLATION LIMIT = 51.26
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.963    CRITERION= .6545E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1547
    HT FLOW CONVERGENCE VALUE= .1170E-01    CRITERION= .6457E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 20 COMPLETED. CUM ITER = 1085
*** TIME = .299797E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6454E-05    OSCILLATION LIMIT = 50.92
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.616    CRITERION= .6515E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1556
    HT FLOW CONVERGENCE VALUE= .1167E-01    CRITERION= .6454E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 21 COMPLETED. CUM ITER = 1086
*** TIME = .300586E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6498E-05    OSCILLATION LIMIT = 51.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.963    CRITERION= .6514E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1548
    HT FLOW CONVERGENCE VALUE= .1163E-01    CRITERION= .6426E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 22 COMPLETED. CUM ITER = 1087
*** TIME = .301375E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6456E-05    OSCILLATION LIMIT = 50.94
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.617    CRITERION= .6484E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1556
    HT FLOW CONVERGENCE VALUE= .1158E-01    CRITERION= .6423E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 23 COMPLETED. CUM ITER = 1088
*** TIME = .302164E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6499E-05    OSCILLATION LIMIT = 51.27
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.963    CRITERION= .6483E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1549
    HT FLOW CONVERGENCE VALUE= .1157E-01    CRITERION= .6395E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 24 COMPLETED. CUM ITER = 1089
*** TIME = .302953E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6458E-05    OSCILLATION LIMIT = 50.95
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.617    CRITERION= .6453E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1557
    HT FLOW CONVERGENCE VALUE= .1153E-01    CRITERION= .6392E-01 <<< CONVERGED
    >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 25 COMPLETED. CUM ITER = 1090
*** TIME = .303742E+10    TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6499E-05    OSCILLATION LIMIT = 51.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07    UNCHANGED

    HT FLOW CONVERGENCE VALUE= 8.964    CRITERION= .6452E-01
    EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1550
    HT FLOW CONVERGENCE VALUE= .1151E-01    CRITERION= .6364E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 26 COMPLETED. CUM ITER = 1091
*** TIME = .304531E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6460E-05 OSCILLATION LIMIT = 50.96
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.617 CRITERION= .6422E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1558
HT FLOW CONVERGENCE VALUE= .1148E-01 CRITERION= .6360E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 27 COMPLETED. CUM ITER = 1092
*** TIME = .305320E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6500E-05 OSCILLATION LIMIT = 51.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.964 CRITERION= .6421E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1551
HT FLOW CONVERGENCE VALUE= .1146E-01 CRITERION= .6332E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 28 COMPLETED. CUM ITER = 1093
*** TIME = .306109E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6462E-05 OSCILLATION LIMIT = 50.98
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.617 CRITERION= .6391E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1559
HT FLOW CONVERGENCE VALUE= .1141E-01 CRITERION= .6329E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 29 COMPLETED. CUM ITER = 1094
*** TIME = .306898E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6500E-05 OSCILLATION LIMIT = 51.28
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.964 CRITERION= .6390E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1553
HT FLOW CONVERGENCE VALUE= .1140E-01 CRITERION= .6301E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 30 COMPLETED. CUM ITER = 1095
*** TIME = .307687E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6463E-05 OSCILLATION LIMIT = 50.99
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.617 CRITERION= .6360E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1559
HT FLOW CONVERGENCE VALUE= .1135E-01 CRITERION= .6298E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 31 COMPLETED. CUM ITER = 1096
*** TIME = .308476E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6501E-05 OSCILLATION LIMIT = 51.29
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.964 CRITERION= .6359E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1554
HT FLOW CONVERGENCE VALUE= .1134E-01 CRITERION= .6270E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 32 COMPLETED. CUM ITER = 1097
*** TIME = .309264E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6465E-05 OSCILLATION LIMIT = 51.00
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.617 CRITERION= .6329E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1560
HT FLOW CONVERGENCE VALUE= .1129E-01 CRITERION= .6267E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 31 SUBSTEP 33 COMPLETED. CUM ITER = 1098
*** TIME = .310053E+10 TIME INC = .788940E+07
*** RESPONSE EIGENVALUE = .6502E-05 OSCILLATION LIMIT = 51.30
*** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.964 CRITERION= .6328E-01

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1555
 HT FLOW CONVERGENCE VALUE= .1128E-01 CRITERION= .6239E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 34 COMPLETED. CUM ITER = 1099
 *** TIME = .310842E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6467E-05 OSCILLATION LIMIT = 51.02
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.617 CRITERION= .6298E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1561
 HT FLOW CONVERGENCE VALUE= .1123E-01 CRITERION= .6235E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 35 COMPLETED. CUM ITER = 1100
 *** TIME = .311631E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6503E-05 OSCILLATION LIMIT = 51.30
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.964 CRITERION= .6297E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1556
 HT FLOW CONVERGENCE VALUE= .1121E-01 CRITERION= .6207E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 36 COMPLETED. CUM ITER = 1101
 *** TIME = .312420E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6468E-05 OSCILLATION LIMIT = 51.03
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.617 CRITERION= .6267E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1562
 HT FLOW CONVERGENCE VALUE= .1116E-01 CRITERION= .6204E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 37 COMPLETED. CUM ITER = 1102
 *** TIME = .313209E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6503E-05 OSCILLATION LIMIT = 51.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.964 CRITERION= .6267E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1557
 HT FLOW CONVERGENCE VALUE= .1115E-01 CRITERION= .6176E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 38 COMPLETED. CUM ITER = 1103
 *** TIME = .313998E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6470E-05 OSCILLATION LIMIT = 51.04
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.617 CRITERION= .6236E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1563
 HT FLOW CONVERGENCE VALUE= .1110E-01 CRITERION= .6173E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 39 COMPLETED. CUM ITER = 1104
 *** TIME = .314787E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6504E-05 OSCILLATION LIMIT = 51.31
 *** AUTO STEP TIME: NEXT TIME INC = .78894E+07 UNCHANGED

HT FLOW CONVERGENCE VALUE= 8.964 CRITERION= .6236E-01
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.1558
 HT FLOW CONVERGENCE VALUE= .1110E-01 CRITERION= .6145E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
 *** LOAD STEP 31 SUBSTEP 40 COMPLETED. CUM ITER = 1105
 *** TIME = .315576E+10 TIME INC = .788940E+07
 *** RESPONSE EIGENVALUE = .6471E-05 OSCILLATION LIMIT = 51.05

*ENDDO INDEX= TM

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:39:33 JUN 13, 1995 CP= 55549.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 50.05      CRITERION= .7928E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7430
HT FLOW CONVERGENCE VALUE= .5398E-01 CRITERION= .6092E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 32 SUBSTEP 1 COMPLETED. CUM ITER = 1106
*** TIME = .323465E+10 TIME INC = .788940E+08
*** AUTO STEP TIME: NEXT TIME INC = .78894E+08 UNCHANGED

HT FLOW CONVERGENCE VALUE= 50.40      CRITERION= .7898E-01
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7019
HT FLOW CONVERGENCE VALUE= .5210E-01 CRITERION= .6013E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 1
*** LOAD STEP 32 SUBSTEP 2 COMPLETED. CUM ITER = 1107
*** TIME = .331355E+10 TIME INC = .788940E+08
*** AUTO TIME STEP: NEXT TIME INC = .23668E+09 INCREASED (FACTOR = 3.0000)

HT FLOW CONVERGENCE VALUE= 150.5      CRITERION= .1621
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.213
HT FLOW CONVERGENCE VALUE= .1526      CRITERION= .5829E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1386
HT FLOW CONVERGENCE VALUE= .5125E-02 CRITERION= .5825E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 3 COMPLETED. CUM ITER = 1109
*** TIME = .355023E+10 TIME INC = .236682E+09
*** AUTO STEP TIME: NEXT TIME INC = .23668E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 150.9      CRITERION= .1616
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.268
HT FLOW CONVERGENCE VALUE= .1487      CRITERION= .5618E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1366
HT FLOW CONVERGENCE VALUE= .4848E-02 CRITERION= .5613E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 4 COMPLETED. CUM ITER = 1111
*** TIME = .378691E+10 TIME INC = .236682E+09
*** AUTO TIME STEP: NEXT TIME INC = .63115E+09 INCREASED (FACTOR = 2.6667)

HT FLOW CONVERGENCE VALUE= 401.7      CRITERION= .4057
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.061
HT FLOW CONVERGENCE VALUE= .3502      CRITERION= .5105E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3303
HT FLOW CONVERGENCE VALUE= .1047E-01 CRITERION= .5094E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 5 COMPLETED. CUM ITER = 1113
*** TIME = .441806E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 402.1      CRITERION= .4052
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.108
HT FLOW CONVERGENCE VALUE= .3156      CRITERION= .4561E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .3013
HT FLOW CONVERGENCE VALUE= .8523E-02 CRITERION= .4550E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 6 COMPLETED. CUM ITER = 1115
*** TIME = .504922E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 401.9      CRITERION= .4045
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.156
HT FLOW CONVERGENCE VALUE= .2797      CRITERION= .4041E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2707
HT FLOW CONVERGENCE VALUE= .6691E-02 CRITERION= .4031E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 7 COMPLETED. CUM ITER = 1117
*** TIME = .568037E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 402.3      CRITERION= .4042

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EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -6.198
HT FLOW CONVERGENCE VALUE= .2405 CRITERION= .3496E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2382
HT FLOW CONVERGENCE VALUE= .4925E-02 CRITERION= .3487E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 32 SUBSTEP 8 COMPLETED. CUM ITER = 1119
*** TIME = .631152E+10 TIME INC = .631152E+09

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 01:48:56 JUN 13, 1995 CP= 56107.680
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

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21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 299.4 CRITERION= .3015
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.558
HT FLOW CONVERGENCE VALUE= .1226 CRITERION= .3338E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1115
HT FLOW CONVERGENCE VALUE= .2610E-02 CRITERION= .3335E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 1 COMPLETED. CUM ITER = 1121
*** TIME = .694267E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 299.8 CRITERION= .3016
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.557
HT FLOW CONVERGENCE VALUE= .1167 CRITERION= .3161E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1064
HT FLOW CONVERGENCE VALUE= .2327E-02 CRITERION= .3158E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 2 COMPLETED. CUM ITER = 1123
*** TIME = .757382E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 299.5 CRITERION= .3013
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.570
HT FLOW CONVERGENCE VALUE= .1105 CRITERION= .3008E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1004
HT FLOW CONVERGENCE VALUE= .2081E-02 CRITERION= .3006E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 3 COMPLETED. CUM ITER = 1125
*** TIME = .820498E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 299.9 CRITERION= .3013
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.571
HT FLOW CONVERGENCE VALUE= .1052 CRITERION= .2832E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .9405E-01
HT FLOW CONVERGENCE VALUE= .1879E-02 CRITERION= .2829E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 4 COMPLETED. CUM ITER = 1127
*** TIME = .883613E+10 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

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HT FLOW CONVERGENCE VALUE= 299.6 CRITERION= .3010
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -2.584
HT FLOW CONVERGENCE VALUE= .1001 CRITERION= .2679E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .8941E-01
HT FLOW CONVERGENCE VALUE= .1689E-02 CRITERION= .2677E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 33 SUBSTEP 5 COMPLETED. CUM ITER = 1129
*** TIME = .946728E+10 TIME INC = .631152E+09

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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 01:55:20 JUN 13, 1995 CP= 56489.110
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 162.7 CRITERION= .1648
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.420
 HT FLOW CONVERGENCE VALUE= .5427E-01 CRITERION= .2575E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4773E-01
 HT FLOW CONVERGENCE VALUE= .8785E-03 CRITERION= .2574E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 1 COMPLETED. CUM ITER = 1131
 *** TIME = .100984E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.4 CRITERION= .1645
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.426
 HT FLOW CONVERGENCE VALUE= .5299E-01 CRITERION= .2496E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4631E-01
 HT FLOW CONVERGENCE VALUE= .8325E-03 CRITERION= .2495E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 2 COMPLETED. CUM ITER = 1133
 *** TIME = .107296E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.7 CRITERION= .1646
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.423
 HT FLOW CONVERGENCE VALUE= .5242E-01 CRITERION= .2393E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4471E-01
 HT FLOW CONVERGENCE VALUE= .7876E-03 CRITERION= .2391E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 3 COMPLETED. CUM ITER = 1135
 *** TIME = .113607E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.4 CRITERION= .1642
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.430
 HT FLOW CONVERGENCE VALUE= .5086E-01 CRITERION= .2313E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4325E-01
 HT FLOW CONVERGENCE VALUE= .7398E-03 CRITERION= .2312E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 4 COMPLETED. CUM ITER = 1137
 *** TIME = .119919E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 162.8 CRITERION= .1643
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -1.428
 HT FLOW CONVERGENCE VALUE= .4913E-01 CRITERION= .2210E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .4160E-01
 HT FLOW CONVERGENCE VALUE= .6820E-03 CRITERION= .2209E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 34 SUBSTEP 5 COMPLETED. CUM ITER = 1139
 *** TIME = .126230E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:01:45 JUN 13, 1995 CP= 56870.800
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 107.4 CRITERION= .1097
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9479
 HT FLOW CONVERGENCE VALUE= .3190E-01 CRITERION= .2162E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2693E-01

HT FLOW CONVERGENCE VALUE= .4311E-03 CRITERION= .2161E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 1 COMPLETED. CUM ITER = 1141
 *** TIME = .132542E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.7 CRITERION= .1098
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9435
 HT FLOW CONVERGENCE VALUE= .3098E-01 CRITERION= .2090E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2608E-01
 HT FLOW CONVERGENCE VALUE= .4068E-03 CRITERION= .2089E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 2 COMPLETED. CUM ITER = 1143
 *** TIME = .138853E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.4 CRITERION= .1095
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9496
 HT FLOW CONVERGENCE VALUE= .3016E-01 CRITERION= .2042E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2527E-01
 HT FLOW CONVERGENCE VALUE= .3823E-03 CRITERION= .2041E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 3 COMPLETED. CUM ITER = 1145
 *** TIME = .145165E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.7 CRITERION= .1096
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9455
 HT FLOW CONVERGENCE VALUE= .2920E-01 CRITERION= .1970E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2428E-01
 HT FLOW CONVERGENCE VALUE= .3559E-03 CRITERION= .1969E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 4 COMPLETED. CUM ITER = 1147
 *** TIME = .151476E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 107.4 CRITERION= .1093
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.9516
 HT FLOW CONVERGENCE VALUE= .2841E-01 CRITERION= .1922E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2357E-01
 HT FLOW CONVERGENCE VALUE= .3353E-03 CRITERION= .1921E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 35 SUBSTEP 5 COMPLETED. CUM ITER = 1149
 *** TIME = .157788E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:08:09 JUN 13, 1995 CP= 57252.850
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 119.9 CRITERION= .1213
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8736
 HT FLOW CONVERGENCE VALUE= .2858E-01 CRITERION= .1862E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2252E-01
 HT FLOW CONVERGENCE VALUE= .3354E-03 CRITERION= .1861E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 36 SUBSTEP 1 COMPLETED. CUM ITER = 1151
 *** TIME = .164100E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.6 CRITERION= .1211
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8795
 HT FLOW CONVERGENCE VALUE= .2795E-01 CRITERION= .1826E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2201E-01
 HT FLOW CONVERGENCE VALUE= .3212E-03 CRITERION= .1826E-01 <<< CONVERGED

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>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 2 COMPLETED. CUM ITER = 1153
*** TIME = .170411E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.9 CRITERION= .1212
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8752
HT FLOW CONVERGENCE VALUE= .2729E-01 CRITERION= .1766E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2133E-01
HT FLOW CONVERGENCE VALUE= .3081E-03 CRITERION= .1766E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 3 COMPLETED. CUM ITER = 1155
*** TIME = .176723E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.6 CRITERION= .1210
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8811
HT FLOW CONVERGENCE VALUE= .2671E-01 CRITERION= .1731E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .2080E-01
HT FLOW CONVERGENCE VALUE= .2924E-03 CRITERION= .1730E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 4 COMPLETED. CUM ITER = 1157
*** TIME = .183034E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 119.9 CRITERION= .1211
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8767
HT FLOW CONVERGENCE VALUE= .2593E-01 CRITERION= .1671E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1997E-01
HT FLOW CONVERGENCE VALUE= .2740E-03 CRITERION= .1671E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 36 SUBSTEP 5 COMPLETED. CUM ITER = 1159
*** TIME = .189346E+11 TIME INC = .631152E+09
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***** ANSYS SOLVE COMMAND *****

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:14:35 JUN 13, 1995 CP= 57634.310
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

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HT FLOW CONVERGENCE VALUE= 134.7 CRITERION= .1358
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8259
HT FLOW CONVERGENCE VALUE= .2687E-01 CRITERION= .1647E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1958E-01
HT FLOW CONVERGENCE VALUE= .2831E-03 CRITERION= .1647E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 1 COMPLETED. CUM ITER = 1161
*** TIME = .195657E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 135.0 CRITERION= .1360
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8214
HT FLOW CONVERGENCE VALUE= .2631E-01 CRITERION= .1599E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1903E-01
HT FLOW CONVERGENCE VALUE= .2723E-03 CRITERION= .1598E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
*** LOAD STEP 37 SUBSTEP 2 COMPLETED. CUM ITER = 1163
*** TIME = .201969E+11 TIME INC = .631152E+09
*** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 134.7 CRITERION= .1357
EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8271
HT FLOW CONVERGENCE VALUE= .2581E-01 CRITERION= .1575E-01
EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1867E-01
HT FLOW CONVERGENCE VALUE= .2614E-03 CRITERION= .1574E-01 <<< CONVERGED
>>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
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*** LOAD STEP 37 SUBSTEP 3 COMPLETED. CUM ITER = 1165
 *** TIME = .208280E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 135.1 CRITERION= .1359
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8226
 HT FLOW CONVERGENCE VALUE= .2522E-01 CRITERION= .1527E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1824E-01
 HT FLOW CONVERGENCE VALUE= .2505E-03 CRITERION= .1526E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 4 COMPLETED. CUM ITER = 1167
 *** TIME = .214592E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 134.7 CRITERION= .1357
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8283
 HT FLOW CONVERGENCE VALUE= .2468E-01 CRITERION= .1503E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1793E-01
 HT FLOW CONVERGENCE VALUE= .2400E-03 CRITERION= .1502E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 37 SUBSTEP 5 COMPLETED. CUM ITER = 1169
 *** TIME = .220903E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:21:00 JUN 13, 1995 CP= 58016.150
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 144.4 CRITERION= .1451
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8081
 HT FLOW CONVERGENCE VALUE= .2518E-01 CRITERION= .1459E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1787E-01
 HT FLOW CONVERGENCE VALUE= .2420E-03 CRITERION= .1459E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 1 COMPLETED. CUM ITER = 1171
 *** TIME = .227215E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.0 CRITERION= .1449
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8139
 HT FLOW CONVERGENCE VALUE= .2469E-01 CRITERION= .1440E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1760E-01
 HT FLOW CONVERGENCE VALUE= .2329E-03 CRITERION= .1440E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 2 COMPLETED. CUM ITER = 1173
 *** TIME = .233526E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.4 CRITERION= .1450
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8092
 HT FLOW CONVERGENCE VALUE= .2417E-01 CRITERION= .1397E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1722E-01
 HT FLOW CONVERGENCE VALUE= .2238E-03 CRITERION= .1397E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 3 COMPLETED. CUM ITER = 1175
 *** TIME = .239838E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.1 CRITERION= .1448
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8149
 HT FLOW CONVERGENCE VALUE= .2368E-01 CRITERION= .1378E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1695E-01
 HT FLOW CONVERGENCE VALUE= .2150E-03 CRITERION= .1378E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2

*** LOAD STEP 38 SUBSTEP 4 COMPLETED. CUM ITER = 1177

*** TIME = .246149E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 144.4 CRITERION= .1450
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.8103
 HT FLOW CONVERGENCE VALUE= .2316E-01 CRITERION= .1335E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1657E-01
 HT FLOW CONVERGENCE VALUE= .2062E-03 CRITERION= .1335E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 38 SUBSTEP 5 COMPLETED. CUM ITER = 1179
 *** TIME = .252461E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:27:25 JUN 13, 1995 CP= 58398.470
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 137.2 CRITERION= .1380
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7306
 HT FLOW CONVERGENCE VALUE= .2134E-01 CRITERION= .1322E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1506E-01
 HT FLOW CONVERGENCE VALUE= .1878E-03 CRITERION= .1322E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 1 COMPLETED. CUM ITER = 1181
 *** TIME = .258772E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.6 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7257
 HT FLOW CONVERGENCE VALUE= .2095E-01 CRITERION= .1286E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1478E-01
 HT FLOW CONVERGENCE VALUE= .1814E-03 CRITERION= .1286E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 2 COMPLETED. CUM ITER = 1183
 *** TIME = .265084E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.3 CRITERION= .1379
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7313
 HT FLOW CONVERGENCE VALUE= .2058E-01 CRITERION= .1273E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1459E-01
 HT FLOW CONVERGENCE VALUE= .1753E-03 CRITERION= .1273E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 3 COMPLETED. CUM ITER = 1185
 *** TIME = .271395E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.6 CRITERION= .1381
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7265
 HT FLOW CONVERGENCE VALUE= .2019E-01 CRITERION= .1236E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1430E-01
 HT FLOW CONVERGENCE VALUE= .1692E-03 CRITERION= .1236E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 4 COMPLETED. CUM ITER = 1187
 *** TIME = .277707E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 137.3 CRITERION= .1379
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.7321
 HT FLOW CONVERGENCE VALUE= .1982E-01 CRITERION= .1223E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1410E-01
 HT FLOW CONVERGENCE VALUE= .1632E-03 CRITERION= .1223E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 39 SUBSTEP 5 COMPLETED. CUM ITER = 1189
 *** TIME = .284018E+11 TIME INC = .631152E+09

***** ANSYS SOLVE COMMAND *****

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:33:51 JUN 13, 1995 CP= 58780.050
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

HT FLOW CONVERGENCE VALUE= 123.7 CRITERION= .1243
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6358
 HT FLOW CONVERGENCE VALUE= .1742E-01 CRITERION= .1191E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1228E-01
 HT FLOW CONVERGENCE VALUE= .1417E-03 CRITERION= .1191E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 1 COMPLETED. CUM ITER = 1191
 *** TIME = .290330E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.4 CRITERION= .1241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6413
 HT FLOW CONVERGENCE VALUE= .1716E-01 CRITERION= .1183E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1214E-01
 HT FLOW CONVERGENCE VALUE= .1374E-03 CRITERION= .1182E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 2 COMPLETED. CUM ITER = 1193
 *** TIME = .296641E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.8 CRITERION= .1242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6364
 HT FLOW CONVERGENCE VALUE= .1686E-01 CRITERION= .1150E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1192E-01
 HT FLOW CONVERGENCE VALUE= .1331E-03 CRITERION= .1150E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 3 COMPLETED. CUM ITER = 1195
 *** TIME = .302953E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.4 CRITERION= .1241
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6419
 HT FLOW CONVERGENCE VALUE= .1660E-01 CRITERION= .1142E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1179E-01
 HT FLOW CONVERGENCE VALUE= .1290E-03 CRITERION= .1142E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 4 COMPLETED. CUM ITER = 1197
 *** TIME = .309264E+11 TIME INC = .631152E+09
 *** AUTO STEP TIME: NEXT TIME INC = .63115E+09 UNCHANGED

HT FLOW CONVERGENCE VALUE= 123.8 CRITERION= .1242
 EQUIL ITER 1 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= -.6370
 HT FLOW CONVERGENCE VALUE= .1630E-01 CRITERION= .1109E-01
 EQUIL ITER 2 COMPLETED. NEW TRIANG MATRIX. MAX DOF INC= .1156E-01
 HT FLOW CONVERGENCE VALUE= .1248E-03 CRITERION= .1109E-01 <<< CONVERGED
 >>> SOLUTION CONVERGED AFTER EQUILIBRIUM ITERATION 2
 *** LOAD STEP 40 SUBSTEP 5 COMPLETED. CUM ITER = 1199
 *** TIME = .315576E+11 TIME INC = .631152E+09

FINISH SOLUTION PROCESSING

***** ROUTINE COMPLETED ***** CP = 59160.070

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21ss.db
 FOR POSSIBLE RESUME FROM THIS POINT

Create element contour plots of solution results

Sort through solution results for time of max temp.

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:40:20 JUN 13, 1995 CP= 59164.950
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= peakclad

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	peakclad	165.0	.3156E+11	350.3	.3156E+08

*GET TMTMAX FROM VARI 2 ITEM=EXTR TMAX VALUE= 31557631.6

***** ROUTINE COMPLETED ***** CP = 59165.190

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:40:21 JUN 13, 1995 CP= 59165.220
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/Waste Package with 10 yr old, 48 GWD/MTU SNF

***** ANSYS RESULTS INTERPRETATION (POST1) *****
Create temperature contour plots of WP at peak

GRAPHIC DISPLAY RESET
XYZ TRIAD DISPLAY SET TO OFF

NUMBER KEY SET TO 1 -1=NONE 0=BOTH 1=COLOR 2=NUMBER

MAT NUMBERING KEY = 1

HIDDEN DISPLAY (PRECISE) IN WINDOW 1

ELEMENT OUTLINE STYLE FOR WINDOW 1 IS -1 0=DEFAULT, 1=ALTERNATE, -1=NONE

FOCUS POINT FOR WINDOW 1 .90080E-01 .00000E+00 .00000E+00

UNSELECT FOR ITEM=MAT COMPONENT=
IN RANGE 7 TO 7 STEP 1

4459 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+08

SET COMMAND GOT LOAD STEP= 13 SUBSTEP= 40 CUMULATIVE ITERATION= 385
TIME/FREQUENCY= .31558E+08

TITLE=

21 PWR UCF/WP at Time of Peak Temp. (1.000001 years)

/SHOW SWITCH PLOTS TO FILE solupk.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 AUTOMATIC CONTOURS

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solupk.grph - RASTER MODE.
DISPLAY TITLE=

21 PWR UCF/WP at Time of Peak Temp. (1.000001 years)

*** WARNING *** CP= 59198.560 TIME= 02:41:00
The selected element set contains mixed materials.
This could invalidate error estimation.
Create temperature contour plots at 10, 50, and 100 yrs

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+09

SET COMMAND GOT LOAD STEP= 22 SUBSTEP= 40 CUMULATIVE ITERATION= 745
TIME/FREQUENCY= .31558E+09

TITLE=
21 PWR UCF/WP at 10 years

/SHOW SWITCH PLOTS TO FILE solu10.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 125.40 BY 1.7708 TO 350.29

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu10.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 10 years

*** WARNING *** CP= 59239.040 TIME= 02:41:41
The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .15779E+10

SET COMMAND GOT LOAD STEP= 26 SUBSTEP= 40 CUMULATIVE ITERATION= 905
TIME/FREQUENCY= .15779E+10

TITLE=
21 PWR UCF/WP at 50 years

/SHOW SWITCH PLOTS TO FILE solu50.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 125.40 BY 1.7708 TO 350.29

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu50.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 50 years

*** WARNING *** CP= 59279.020 TIME= 02:42:21

The selected element set contains mixed materials.
This could invalidate error estimation.

USE NEAREST SUBSTEP ON RESULT FILE FOR LOAD CASE 0
USE DATA SET FOR TIME OR FREQUENCY= .31558E+10

SET COMMAND GOT LOAD STEP= 31 SUBSTEP= 40 CUMULATIVE ITERATION= 1105
TIME/FREQUENCY= .31558E+10

TITLE=
21 PWR UCF/WP at 100 years

/SHOW SWITCH PLOTS TO FILE solu100.grph - RASTER MODE.
- GRAPHIC PLANES = 8.

WINDOW 1 HAS 128 CONTOURS DEFINED BY PREVIOUS PLOT ACTION
FROM 125.40 BY 1.7708 TO 350.29

DISPLAY NODAL SOLUTION, ITEM=TEMP COMP=

CUMULATIVE DISPLAY NUMBER 1 WRITTEN TO FILE solu100.grph - RASTER MODE.
DISPLAY TITLE=
21 PWR UCF/WP at 100 years

*** WARNING *** CP= 59318.460 TIME= 02:43:00
The selected element set contains mixed materials.
This could invalidate error estimation.

ALL SELECT FOR ITEM=ELEM COMPONENT=
IN RANGE 1 TO 5561 STEP 1

5253 ELEMENTS (OF 5253 DEFINED) SELECTED BY ESEL COMMAND.

EXIT THE ANSYS POST1 DATABASE PROCESSOR

***** ROUTINE COMPLETED ***** CP = 59325.690

Print time/temperature output at specific locations
Save profile from center to edge

Variable Legend: A01i000

c = center of assembly
h = halfway between center and tube
s = inside structural stainless tube layer
t = stainless tube cladding
g = tube guide
i = inner barrier of DC
o = outer barrier of DC

= ID number of assembly (01 is center)

i = side of assembly toward center of WP

o = side of assembly toward edge of WP

000 = profile center down

045 = profile 45 deg down

090 = profile center side

135 = profile 45 deg up

180 = profile center up

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
38303 VERSION=HP 9000/7XX 02:43:08 JUN 13, 1995 CP= 59325.700
FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** TIME-HISTORY POSTPROCESSOR (POST26) *****

ALL POST26 SPECIFICATIONS ARE RESET TO INITIAL DEFAULTS

MAXIMUM NUMBER OF VARIABLES= 30

 * Temperature Profile from center to bottom of WP (0 deg.) *

VARIABLE 2	IS AT NODE	9	ITEM= TEMP COMP=	NAME= c01i000
VARIABLE 3	IS AT NODE	6	ITEM= TEMP COMP=	NAME= h01o000
VARIABLE 4	IS AT NODE	1	ITEM= TEMP COMP=	NAME= s01o000
VARIABLE 5	IS AT NODE	346	ITEM= TEMP COMP=	NAME= t01o000
VARIABLE 6	IS AT NODE	3820	ITEM= TEMP COMP=	NAME= ts1o000
VARIABLE 7	IS AT NODE	858	ITEM= TEMP COMP=	NAME= t06i000
VARIABLE 8	IS AT NODE	695	ITEM= TEMP COMP=	NAME= s06i000
VARIABLE 9	IS AT NODE	706	ITEM= TEMP COMP=	NAME= h06i000
VARIABLE 10	IS AT NODE	702	ITEM= TEMP COMP=	NAME= c06i000
VARIABLE 11	IS AT NODE	699	ITEM= TEMP COMP=	NAME= h06o000
VARIABLE 12	IS AT NODE	694	ITEM= TEMP COMP=	NAME= s06o000
VARIABLE 13	IS AT NODE	814	ITEM= TEMP COMP=	NAME= t13i000
VARIABLE 14	IS AT NODE	1051	ITEM= TEMP COMP=	NAME= s13i000
VARIABLE 15	IS AT NODE	1062	ITEM= TEMP COMP=	NAME= h13i000
VARIABLE 16	IS AT NODE	1058	ITEM= TEMP COMP=	NAME= c13i000
VARIABLE 17	IS AT NODE	1055	ITEM= TEMP COMP=	NAME= h13o000
VARIABLE 18	IS AT NODE	1050	ITEM= TEMP COMP=	NAME= s13o000
VARIABLE 19	IS AT NODE	1170	ITEM= TEMP COMP=	NAME= t13o000
VARIABLE 20	IS AT NODE	4304	ITEM= TEMP COMP=	NAME= i13i000
VARIABLE 21	IS AT NODE	4240	ITEM= TEMP COMP=	NAME= i13o000
VARIABLE 22	IS AT NODE	4487	ITEM= TEMP COMP=	NAME= o13o000

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i000	165.0	.3156E+11	350.3	.3156E+08
3 NSOL	6 TEMP	h01o000	164.8	.3156E+11	347.6	.3156E+08
4 NSOL	1 TEMP	s01o000	163.8	.3156E+11	333.8	.6312E+08
5 NSOL	346 TEMP	t01o000	163.8	.3156E+11	333.7	.6312E+08
6 NSOL	3820 TEMP	ts1o000	163.8	.3156E+11	333.7	.6312E+08
7 NSOL	858 TEMP	t06i000	163.8	.3156E+11	333.7	.6312E+08
8 NSOL	695 TEMP	s06i000	163.8	.3156E+11	333.8	.6312E+08
9 NSOL	706 TEMP	h06i000	164.3	.3156E+11	338.6	.6312E+08
10 NSOL	702 TEMP	c06i000	164.2	.3156E+11	335.3	.6312E+08
11 NSOL	699 TEMP	h06o000	163.7	.3156E+11	326.9	.6312E+08
12 NSOL	694 TEMP	s06o000	162.4	.3156E+11	306.6	.6312E+08
13 NSOL	814 TEMP	t13i000	162.4	.3156E+11	306.5	.6312E+08

14	NSOL	1051	TEMP	s13i000	162.4	.3156E+11	306.4	.6312E+08
15	NSOL	1062	TEMP	h13i000	162.1	.3156E+11	299.3	.9467E+08
16	NSOL	1058	TEMP	c13i000	161.2	.3156E+11	282.3	.1578E+09
17	NSOL	1055	TEMP	h13o000	160.0	.3156E+11	262.4	.2525E+09
18	NSOL	1050	TEMP	s13o000	144.0	.1000E-05	222.9	.6312E+09
19	NSOL	1170	TEMP	t13o000	143.7	.1000E-05	222.7	.6312E+09
20	NSOL	4304	TEMP	i13i000	30.10	.1000E-05	190.8	.1578E+10
21	NSOL	4240	TEMP	i13o000	28.78	.1000E-05	190.3	.1578E+10
22	NSOL	4487	TEMP	o13o000	26.14	.1000E-05	189.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:10 JUN 13, 1995 CP= 59328.320
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i000	6 TEMP h01o000	1 TEMP s01o000	346 TEMP t01o000	3820 TEMP ts1o000	858 TEMP t06i000
.10000E-05	307.681	304.426	287.677	287.543	287.532	287.611
.20000E-05	328.559	325.483	309.733	309.601	309.590	309.667
31.558	328.559	325.483	309.733	309.601	309.590	309.667
.31558E+07	342.580	339.689	324.734	324.605	324.594	324.667
.63116E+07	345.724	342.871	328.113	327.985	327.974	328.047
.94673E+07	347.297	344.470	329.849	329.721	329.710	329.783
.12623E+08	348.324	345.517	331.007	330.880	330.869	330.941
.15779E+08	349.028	346.239	331.823	331.697	331.686	331.758
.18935E+08	349.526	346.753	332.422	332.297	332.286	332.357
.22090E+08	349.874	347.116	332.863	332.738	332.727	332.798
.25246E+08	350.083	347.339	333.157	333.033	333.022	333.092
.28402E+08	350.212	347.481	333.366	333.242	333.231	333.301
.31558E+08	350.288	347.570	333.518	333.395	333.384	333.454
.63115E+08	349.955	347.332	333.782	333.663	333.653	333.720
.94673E+08	348.473	345.924	332.763	332.648	332.637	332.703
.12623E+09	346.979	344.494	331.659	331.548	331.538	331.601
.15779E+09	345.893	343.460	330.901	330.791	330.782	330.844
.18935E+09	343.666	341.291	329.028	328.921	328.912	328.972
.22090E+09	342.066	339.735	327.707	327.603	327.594	327.653
.25246E+09	340.494	338.206	326.402	326.300	326.291	326.349
.28402E+09	338.439	336.188	324.575	324.476	324.467	324.524
.31558E+09	336.903	334.682	323.226	323.128	323.120	323.175
.63115E+09	319.149	317.227	307.316	307.235	307.227	307.274
.94673E+09	304.909	303.224	294.547	294.477	294.471	294.511
.12623E+10	291.206	289.708	282.002	281.942	281.937	281.972
.15779E+10	278.585	277.247	270.367	270.315	270.310	270.341
.18935E+10	267.853	266.647	260.443	260.397	260.393	260.420
.22090E+10	258.490	257.394	251.758	251.717	251.714	251.738
.25246E+10	249.983	248.979	243.822	243.785	243.782	243.804
.28402E+10	243.064	242.138	237.380	237.346	237.343	237.363
.31558E+10	236.860	236.004	231.607	231.577	231.574	231.592
.63115E+10	207.828	207.296	204.565	204.547	204.546	204.557
.94673E+10	195.489	195.067	192.900	192.886	192.885	192.893
.12623E+11	188.585	188.228	186.394	186.383	186.382	186.389
.15779E+11	183.973	183.660	182.053	182.043	182.042	182.048
.18935E+11	179.694	179.416	177.991	177.982	177.981	177.986
.22090E+11	175.662	175.411	174.123	174.115	174.114	174.119
.25246E+11	171.692	171.464	170.295	170.288	170.287	170.291
.28402E+11	168.118	167.909	166.836	166.829	166.829	166.833
.31558E+11	164.986	164.792	163.799	163.793	163.792	163.796

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:10 JUN 13, 1995 CP= 59328.330
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	695 TEMP s06i000	706 TEMP h06i000	702 TEMP c06i000	699 TEMP h06o000	694 TEMP s06o000	814 TEMP t13i000
.10000E-05	287.696	294.127	290.746	280.826	256.090	255.980
.20000E-05	309.748	315.551	312.074	302.512	279.051	278.942
31.558	309.748	315.551	312.075	302.512	279.051	278.942
.31558E+07	324.747	330.179	326.738	317.533	295.128	295.019
.63116E+07	328.125	333.439	329.987	320.860	298.705	298.597
.94673E+07	329.861	335.100	331.648	322.582	300.618	300.510
.12623E+08	331.018	336.204	332.761	323.750	301.947	301.839
.15779E+08	331.835	336.976	333.542	324.582	302.918	302.811
.18935E+08	332.434	337.537	334.113	325.199	303.663	303.556
.22090E+08	332.874	337.944	334.531	325.661	304.242	304.135
.25246E+08	333.168	338.209	334.809	325.980	304.670	304.564
.28402E+08	333.377	338.391	335.004	326.214	305.007	304.902
.31558E+08	333.529	338.519	335.144	326.392	305.285	305.180
.63115E+08	333.792	338.597	335.334	326.891	306.568	306.467
.94673E+08	332.773	337.445	334.284	326.092	306.390	306.292
.12623E+09	331.669	336.233	333.160	325.183	306.005	305.910
.15779E+09	330.911	335.381	332.381	324.582	305.842	305.748
.18935E+09	329.037	333.418	330.508	322.910	304.649	304.559
.22090E+09	327.717	332.025	329.184	321.743	303.861	303.773
.25246E+09	326.412	330.650	327.874	320.584	303.060	302.974
.28402E+09	324.585	328.768	326.057	318.900	301.691	301.606
.31558E+09	323.236	327.373	324.712	317.664	300.709	300.625
.63115E+09	307.326	311.017	308.855	302.873	288.430	288.362
.94673E+09	294.555	297.862	296.063	290.909	278.441	278.384
.12623E+10	282.010	285.006	283.486	278.971	268.010	267.960
.15779E+10	270.375	273.101	271.808	267.830	258.131	258.088
.18935E+10	260.451	262.952	261.841	258.300	249.627	249.589
.22090E+10	251.765	254.076	253.113	249.931	242.120	242.087
.25246E+10	243.828	245.970	245.125	242.244	235.152	235.122
.28402E+10	237.386	239.384	238.631	235.994	229.483	229.456
.31558E+10	231.613	233.477	232.802	230.381	224.389	224.364
.63115E+10	204.569	205.775	205.416	203.960	200.313	200.299
.94673E+10	192.903	193.875	193.609	192.468	189.599	189.588
.12623E+11	186.397	187.226	187.010	186.051	183.633	183.624
.15779E+11	182.056	182.787	182.602	181.766	179.653	179.645
.18935E+11	177.993	178.645	178.485	177.746	175.877	175.870
.22090E+11	174.125	174.718	174.578	173.914	172.230	172.224
.25246E+11	170.297	170.838	170.715	170.115	168.590	168.585
.28402E+11	166.837	167.337	167.228	166.679	165.283	165.278
.31558E+11	163.800	164.265	164.166	163.661	162.371	162.367

1

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:10 JUN 13, 1995 CP= 59328.340
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1051 TEMP s13i000	1062 TEMP h13i000	1058 TEMP c13i000	1055 TEMP h13o000	1050 TEMP s13o000	1170 TEMP t13o000
.10000E-05	255.923	248.813	228.375	202.767	143.982	143.715
.20000E-05	278.882	271.483	251.345	226.504	170.209	169.936
31.558	278.882	271.484	251.345	226.504	170.209	169.936
.31558E+07	294.959	287.520	267.871	243.838	189.884	189.612
.63116E+07	298.536	291.075	271.531	247.694	194.283	194.012
.94673E+07	300.449	292.990	273.546	249.881	196.935	196.664

.12623E+08	301.779	294.335	274.988	251.474	198.928	198.659
.15779E+08	302.750	295.325	276.070	252.692	200.504	200.235
.18935E+08	303.496	296.091	276.923	253.673	201.815	201.547
.22090E+08	304.075	296.693	277.610	254.480	202.928	202.662
.25246E+08	304.504	297.146	278.144	255.128	203.866	203.601
.28402E+08	304.842	297.508	278.586	255.678	204.692	204.428
.31558E+08	305.120	297.811	278.967	256.164	205.445	205.182
.63115E+08	306.409	299.319	281.123	259.173	210.584	210.330
.94673E+08	306.236	299.348	281.698	260.445	213.568	213.322
.12623E+09	305.855	299.144	281.964	261.304	215.869	215.630
.15779E+09	305.695	299.130	282.338	262.170	217.927	217.693
.18935E+09	304.507	298.120	281.778	262.164	219.241	219.014
.22090E+09	303.722	297.475	281.484	262.305	220.415	220.193
.25246E+09	302.924	296.809	281.152	262.385	221.469	221.253
.28402E+09	301.558	295.570	280.219	261.821	221.770	221.558
.31558E+09	300.578	294.692	279.586	261.485	222.128	221.920
.63115E+09	288.323	283.453	270.769	255.575	222.901	222.729
.94673E+09	278.352	274.246	263.421	250.455	222.819	222.675
.12623E+10	267.933	264.428	255.036	243.771	219.911	219.787
.15779E+10	258.065	255.060	246.861	237.025	216.255	216.148
.18935E+10	249.569	246.958	239.724	231.028	212.703	212.610
.22090E+10	242.070	239.778	233.334	225.568	209.232	209.150
.25246E+10	235.107	233.075	227.276	220.272	205.554	205.481
.28402E+10	229.442	227.612	222.328	215.932	202.507	202.441
.31558E+10	224.352	222.698	217.869	212.014	199.736	199.676
.63115E+10	200.292	199.375	196.538	193.073	185.853	185.818
.94673E+10	189.583	188.891	186.695	184.000	178.386	178.359
.12623E+11	183.620	183.051	181.216	178.959	174.258	174.236
.15779E+11	179.642	179.153	177.560	175.597	171.508	171.490
.18935E+11	175.867	175.443	174.043	172.314	168.712	168.696
.22090E+11	172.221	171.846	170.593	169.041	165.808	165.794
.25246E+11	168.582	168.250	167.123	165.724	162.807	162.794
.28402E+11	165.276	164.978	163.952	162.676	160.013	160.001
.31558E+11	162.365	162.094	161.152	159.977	157.525	157.514

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:10 JUN 13, 1995 CP= 59328.350
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4304 TEMP	4240 TEMP	4487 TEMP
	i13i000	i13o000	o13o000
.10000E-05	30.1003	28.7806	26.1379
.20000E-05	73.3123	71.9025	69.2535
31.558	73.3123	71.9025	69.2535
.31558E+07	104.838	103.406	100.945
.63116E+07	111.638	110.206	107.733
.94673E+07	115.990	114.563	112.095
.12623E+08	119.328	117.907	115.446
.15779E+08	122.033	120.617	118.164
.18935E+08	124.339	122.931	120.485
.22090E+08	126.336	124.935	122.497
.25246E+08	128.070	126.676	124.247
.28402E+08	129.630	128.243	125.822
.31558E+08	131.076	129.695	127.283
.63115E+08	141.315	139.988	137.648
.94673E+08	147.985	146.704	144.431
.12623E+09	153.243	152.001	149.786
.15779E+09	157.707	156.497	154.328
.18935E+09	161.444	160.272	158.162
.22090E+09	164.506	163.364	161.299
.25246E+09	167.299	166.184	164.163
.28402E+09	169.019	167.928	165.948
.31558E+09	170.526	169.456	167.508

.63115E+09	181.462	180.584	178.967
.94673E+09	188.562	187.826	186.462
.12623E+10	190.586	189.958	188.793
.15779E+10	190.822	190.282	189.281
.18935E+10	190.295	189.825	188.953
.22090E+10	189.257	188.843	188.075
.25246E+10	187.521	187.152	186.470
.28402E+10	186.028	185.695	185.080
.31558E+10	184.640	184.338	183.782
.63115E+10	176.852	176.682	176.371
.94673E+10	171.298	171.169	170.933
.12623E+11	168.284	168.177	167.983
.15779E+11	166.290	166.197	166.030
.18935E+11	164.090	164.009	163.863
.22090E+11	161.634	161.562	161.432
.25246E+11	159.018	158.953	158.836
.28402E+11	156.532	156.473	156.368
.31558E+11	154.300	154.246	154.150

 * Temperature Profile from center to lower right (45 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i045

*** WARNING *** CP= 59328.480 TIME= 02:43:10
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 84 ITEM= TEMP COMP= NAME= h01o045
 VARIABLE 4 IS AT NODE 23 ITEM= TEMP COMP= NAME= s01o045
 VARIABLE 5 IS AT NODE 348 ITEM= TEMP COMP= NAME= t01o045
 VARIABLE 6 IS AT NODE 3831 ITEM= TEMP COMP= NAME= ts1o045
 VARIABLE 7 IS AT NODE 2465 ITEM= TEMP COMP= NAME= t08i045
 VARIABLE 8 IS AT NODE 2240 ITEM= TEMP COMP= NAME= s08i045
 VARIABLE 9 IS AT NODE 2331 ITEM= TEMP COMP= NAME= h08i045
 VARIABLE 10 IS AT NODE 2379 ITEM= TEMP COMP= NAME= c08i045
 VARIABLE 11 IS AT NODE 2427 ITEM= TEMP COMP= NAME= h08o045
 VARIABLE 12 IS AT NODE 2268 ITEM= TEMP COMP= NAME= s08o045
 VARIABLE 13 IS AT NODE 2494 ITEM= TEMP COMP= NAME= g08i045
 VARIABLE 14 IS AT NODE 3689 ITEM= TEMP COMP= NAME= g08o045
 VARIABLE 15 IS AT NODE 4332 ITEM= TEMP COMP= NAME= i08i045
 VARIABLE 16 IS AT NODE 4272 ITEM= TEMP COMP= NAME= i08o045
 VARIABLE 17 IS AT NODE 4521 ITEM= TEMP COMP= NAME= o08o045
 Add centers of assemblies 11 and 12
 VARIABLE 18 IS AT NODE 3390 ITEM= TEMP COMP= NAME= c11i045
 VARIABLE 19 IS AT NODE 2716 ITEM= TEMP COMP= NAME= c12i045

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i045	165.0	.3156E+11	350.3	.3156E+08

3	NSOL	84	TEMP	h01o045	164.4	.3156E+11	342.0	.3156E+08
4	NSOL	23	TEMP	s01o045	163.5	.3156E+11	328.8	.6312E+08
5	NSOL	348	TEMP	t01o045	163.5	.3156E+11	327.6	.6312E+08
6	NSOL	3831	TEMP	ts1o045	163.5	.3156E+11	327.4	.6312E+08
7	NSOL	2465	TEMP	t08i045	163.4	.3156E+11	327.3	.6312E+08
8	NSOL	2240	TEMP	s08i045	163.4	.3156E+11	326.7	.6312E+08
9	NSOL	2331	TEMP	h08i045	163.6	.3156E+11	327.1	.6312E+08
10	NSOL	2379	TEMP	c08i045	163.0	.3156E+11	314.7	.6312E+08
11	NSOL	2427	TEMP	h08o045	160.9	.3156E+11	279.5	.1578E+09
12	NSOL	2268	TEMP	s08o045	158.5	.3156E+11	240.6	.2525E+09
13	NSOL	2494	TEMP	g08i045	158.4	.3156E+11	238.3	.3156E+09
14	NSOL	3689	TEMP	g08o045	158.1	.3156E+11	233.9	.3156E+09
15	NSOL	4332	TEMP	i08i045	30.00	.1000E-05	190.6	.1578E+10
16	NSOL	4272	TEMP	i08o045	28.46	.1000E-05	189.8	.1578E+10
17	NSOL	4521	TEMP	o08o045	26.14	.1000E-05	188.8	.1578E+10
18	NSOL	3390	TEMP	c11i045	159.4	.3156E+11	254.3	.2525E+09
19	NSOL	2716	TEMP	c12i045	159.5	.3156E+11	255.7	.2525E+09
20	NSOL	4304	TEMP	i13i000	30.10	.1000E-05	190.8	.1578E+10
21	NSOL	4240	TEMP	i13o000	28.78	.1000E-05	190.3	.1578E+10
22	NSOL	4487	TEMP	o13o000	26.14	.1000E-05	189.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:13 JUN 13, 1995 CP= 59330.620
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i045	84 TEMP h01o045	23 TEMP s01o045	348 TEMP t01o045	3831 TEMP ts1o045	2465 TEMP t08i045
.10000E-05	307.681	297.926	281.927	280.520	280.320	280.181
.20000E-05	328.559	319.346	304.134	302.770	302.577	302.442
31.558	328.559	319.346	304.134	302.770	302.577	302.442
.31558E+07	342.580	333.829	319.266	317.946	317.760	317.631
.63116E+07	345.724	337.082	322.684	321.374	321.190	321.062
.94673E+07	347.297	338.732	324.455	323.154	322.971	322.844
.12623E+08	348.324	339.822	325.645	324.352	324.171	324.044
.15779E+08	349.028	340.580	326.490	325.205	325.025	324.898
.18935E+08	349.526	341.126	327.117	325.838	325.659	325.533
.22090E+08	349.874	341.518	327.583	326.311	326.132	326.007
.25246E+08	350.083	341.769	327.901	326.635	326.457	326.333
.28402E+08	350.212	341.936	328.134	326.873	326.696	326.573
.31558E+08	350.288	342.049	328.309	327.055	326.878	326.755
.63115E+08	349.955	342.006	328.760	327.551	327.381	327.263
.94673E+08	348.473	340.750	327.896	326.724	326.559	326.444
.12623E+09	346.979	339.447	326.924	325.784	325.624	325.512
.15779E+09	345.893	338.520	326.274	325.161	325.005	324.895
.18935E+09	343.666	336.468	324.525	323.441	323.289	323.183
.22090E+09	342.066	335.004	323.302	322.242	322.093	321.989
.25246E+09	340.494	333.563	322.089	321.051	320.905	320.803
.28402E+09	338.439	331.621	320.346	319.328	319.185	319.085
.31558E+09	336.903	330.177	319.065	318.063	317.922	317.824
.63115E+09	319.149	313.332	303.818	302.975	302.856	302.773
.94673E+09	304.909	299.814	291.560	290.840	290.738	290.668
.12623E+10	291.206	286.680	279.405	278.778	278.690	278.628
.15779E+10	278.585	274.545	268.091	267.541	267.463	267.409
.18935E+10	267.853	264.211	258.424	257.936	257.868	257.820
.22090E+10	258.490	255.183	249.956	249.520	249.459	249.416
.25246E+10	249.983	246.955	242.198	241.805	241.750	241.711
.28402E+10	243.064	240.271	235.899	235.541	235.490	235.455
.31558E+10	236.860	234.279	230.253	229.925	229.879	229.847
.63115E+10	207.828	206.225	203.763	203.568	203.540	203.521
.94673E+10	195.489	194.217	192.275	192.123	192.102	192.087
.12623E+11	188.585	187.509	185.871	185.744	185.726	185.713
.15779E+11	183.973	183.030	181.598	181.487	181.471	181.461

.18935E+11	179.694	178.857	177.589	177.491	177.478	177.468
.22090E+11	175.662	174.906	173.763	173.675	173.663	173.655
.25246E+11	171.692	171.006	169.970	169.892	169.880	169.873
.28402E+11	168.118	167.489	166.540	166.468	166.458	166.451
.31558E+11	164.986	164.403	163.527	163.460	163.451	163.445

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:13 JUN 13, 1995 CP= 59330.630
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	2240 TEMP s08i045	2331 TEMP h08i045	2379 TEMP c08i045	2427 TEMP h08o045	2268 TEMP s08o045	2494 TEMP g08i045
.10000E-05	279.524	280.691	267.024	223.130	168.064	164.663
.20000E-05	301.808	302.604	289.032	247.110	194.995	191.738
31.558	301.808	302.604	289.033	247.110	194.995	191.738
.31558E+07	317.022	317.624	304.289	263.958	214.113	210.986
.63116E+07	320.457	320.989	307.698	267.746	218.436	215.340
.94673E+07	322.243	322.736	309.497	269.853	220.985	217.914
.12623E+08	323.447	323.917	310.737	271.362	222.868	219.820
.15779E+08	324.304	324.757	311.634	272.499	224.336	221.309
.18935E+08	324.942	325.381	312.312	273.400	225.542	222.533
.22090E+08	325.419	325.847	312.832	274.126	226.552	223.562
.25246E+08	325.748	326.168	313.206	274.694	227.385	224.411
.28402E+08	325.990	326.404	313.494	275.166	228.110	225.152
.31558E+08	326.175	326.583	313.724	275.576	228.764	225.821
.63115E+08	326.704	327.080	314.653	277.942	233.069	230.247
.94673E+08	325.903	326.269	314.212	278.660	235.339	232.614
.12623E+09	324.985	325.347	313.608	279.038	237.024	234.382
.15779E+09	324.380	324.736	313.261	279.506	238.574	236.000
.18935E+09	322.681	323.044	311.877	279.031	239.294	236.796
.22090E+09	321.498	321.863	310.938	278.806	240.007	237.570
.25246E+09	320.323	320.690	309.994	278.539	240.624	238.243
.28402E+09	318.614	318.990	308.507	277.654	240.523	238.193
.31558E+09	317.360	317.742	307.429	277.062	240.562	238.273
.63115E+09	302.382	302.828	294.200	268.599	238.181	236.287
.94673E+09	290.333	290.798	283.462	261.527	235.716	234.118
.12623E+10	278.336	278.816	272.475	253.334	230.996	229.620
.15779E+10	267.153	267.640	262.131	245.318	225.847	224.652
.18935E+10	257.592	258.082	253.239	238.314	221.114	220.062
.22090E+10	249.213	249.697	245.396	232.035	216.684	215.749
.25246E+10	241.528	242.002	238.150	226.069	212.226	211.385
.28402E+10	235.288	235.748	232.251	221.197	208.557	207.792
.31558E+10	229.694	230.137	226.949	216.808	205.237	204.539
.63115E+10	203.430	203.759	201.912	195.839	188.996	188.588
.94673E+10	192.016	192.294	190.870	186.124	180.794	180.477
.12623E+11	185.654	185.896	184.711	180.726	176.258	175.993
.15779E+11	181.409	181.626	180.599	177.126	173.239	173.009
.18935E+11	177.423	177.620	176.719	173.655	170.229	170.027
.22090E+11	173.614	173.796	172.992	170.239	167.163	166.982
.25246E+11	169.836	170.005	169.285	166.799	164.023	163.861
.28402E+11	166.417	166.576	165.923	163.652	161.118	160.969
.31558E+11	163.414	163.563	162.965	160.871	158.537	158.401

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:13 JUN 13, 1995 CP= 59330.640
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3689 TEMP g08o045	4332 TEMP i08i045	4272 TEMP i08o045	4521 TEMP o08o045	3390 TEMP c11i045	2716 TEMP c12i045
.10000E-05	158.182	30.0041	28.4615	26.1379	189.002	190.214
.20000E-05	185.515	73.4016	71.6718	69.2227	214.518	215.728
31.558	185.515	73.4016	71.6718	69.2227	214.518	215.728
.31558E+07	204.978	103.926	102.112	99.5989	232.406	234.044
.63116E+07	209.390	110.739	108.918	106.379	236.493	238.135
.94673E+07	212.014	115.114	113.294	110.752	238.852	240.486
.12623E+08	213.963	118.467	116.650	114.109	240.582	242.210
.15779E+08	215.492	121.188	119.374	116.837	241.919	243.539
.18935E+08	216.752	123.506	121.698	119.164	243.003	244.617
.22090E+08	217.814	125.514	123.713	121.183	243.903	245.510
.25246E+08	218.696	127.251	125.457	122.933	244.631	246.235
.28402E+08	219.467	128.819	127.032	124.514	245.258	246.857
.31558E+08	220.166	130.271	128.491	125.979	245.817	247.411
.63115E+08	224.830	140.572	138.853	136.403	249.384	250.927
.94673E+08	227.389	147.293	145.628	143.239	251.068	252.564
.12623E+09	229.318	152.587	150.969	148.635	252.263	253.720
.15779E+09	231.069	157.080	155.501	153.211	253.406	254.831
.18935E+09	232.013	160.837	159.304	157.072	253.677	255.068
.22090E+09	232.902	163.921	162.424	160.236	254.040	255.402
.25246E+09	233.683	166.730	165.268	163.123	254.325	255.660
.28402E+09	233.731	168.470	167.040	164.938	253.934	255.243
.31558E+09	233.890	169.995	168.590	166.522	253.740	255.027
.63115E+09	232.661	181.045	179.889	178.168	249.115	250.200
.94673E+09	231.060	188.216	187.246	185.791	244.958	245.888
.12623E+10	226.987	190.290	189.463	188.219	238.975	239.784
.15779E+10	222.366	190.555	189.846	188.778	232.796	233.509
.18935E+10	218.052	190.051	189.434	188.504	227.252	227.888
.22090E+10	213.961	189.028	188.484	187.666	222.162	222.737
.25246E+10	209.779	187.309	186.825	186.098	217.169	217.691
.28402E+10	206.331	185.828	185.392	184.736	213.072	213.553
.31558E+10	203.205	184.448	184.053	183.459	209.370	209.816
.63115E+10	187.813	176.721	176.500	176.168	191.440	191.714
.94673E+10	179.878	171.191	171.022	170.771	182.701	182.917
.12623E+11	175.492	168.191	168.051	167.844	177.857	178.040
.15779E+11	172.574	166.206	166.086	165.908	174.631	174.791
.18935E+11	169.644	164.016	163.911	163.756	171.456	171.598
.22090E+11	166.639	161.567	161.474	161.335	168.266	168.394
.25246E+11	163.552	158.957	158.873	158.750	165.020	165.135
.28402E+11	160.688	156.476	156.400	156.289	162.029	162.134
.31558E+11	158.142	154.247	154.178	154.077	159.377	159.474

 * Temperature Profile from center to side of WP (90 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i090

*** WARNING *** CP= 59330.770 TIME= 02:43:13
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 88 ITEM= TEMP COMP= NAME= h01o090

VARIABLE 4 IS AT NODE 30 ITEM= TEMP COMP= NAME= s01o090

VARIABLE 5 IS AT NODE 369 ITEM= TEMP COMP= NAME= t01o090

VARIABLE 6 IS AT NODE 3936 ITEM= TEMP COMP= NAME= ts1o090

VARIABLE 7 IS AT NODE 412 ITEM= TEMP COMP= NAME= t02i090

VARIABLE 8 IS AT NODE 129 ITEM= TEMP COMP= NAME= s02i090

VARIABLE 9 IS AT NODE 209 ITEM= TEMP COMP= NAME= h02i090

VARIABLE 10 IS AT NODE 261 ITEM= TEMP COMP= NAME= c02i090
 VARIABLE 11 IS AT NODE 313 ITEM= TEMP COMP= NAME= h02o090
 VARIABLE 12 IS AT NODE 157 ITEM= TEMP COMP= NAME= s02o090
 VARIABLE 13 IS AT NODE 469 ITEM= TEMP COMP= NAME= t02i090
 VARIABLE 14 IS AT NODE 1236 ITEM= TEMP COMP= NAME= s04i090
 VARIABLE 15 IS AT NODE 1316 ITEM= TEMP COMP= NAME= h04i090
 VARIABLE 16 IS AT NODE 1368 ITEM= TEMP COMP= NAME= c04i090
 VARIABLE 17 IS AT NODE 1407 ITEM= TEMP COMP= NAME= h04o090
 VARIABLE 18 IS AT NODE 1264 ITEM= TEMP COMP= NAME= s04o090
 VARIABLE 19 IS AT NODE 1518 ITEM= TEMP COMP= NAME= t04o090
 VARIABLE 20 IS AT NODE 4057 ITEM= TEMP COMP= NAME= i04i090
 VARIABLE 21 IS AT NODE 3993 ITEM= TEMP COMP= NAME= i04o090
 VARIABLE 22 IS AT NODE 4484 ITEM= TEMP COMP= NAME= o04o090

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES

VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2	NSOL	9 TEMP	c01i090	165.0	.3156E+11	350.3	.3156E+08
3	NSOL	88 TEMP	h01o090	164.7	.3156E+11	346.1	.3156E+08
4	NSOL	30 TEMP	s01o090	164.0	.3156E+11	336.6	.6312E+08
5	NSOL	369 TEMP	t01o090	164.0	.3156E+11	336.6	.6312E+08
6	NSOL	3936 TEMP	ts1o090	164.0	.3156E+11	336.5	.6312E+08
7	NSOL	412 TEMP	t02i090	164.0	.3156E+11	336.5	.6312E+08
8	NSOL	129 TEMP	s02i090	164.0	.3156E+11	336.6	.6312E+08
9	NSOL	209 TEMP	h02i090	164.3	.3156E+11	339.4	.6312E+08
10	NSOL	261 TEMP	c02i090	164.1	.3156E+11	335.0	.6312E+08
11	NSOL	313 TEMP	h02o090	163.3	.3156E+11	321.6	.6312E+08
12	NSOL	157 TEMP	s02o090	162.2	.3156E+11	304.6	.6312E+08
13	NSOL	469 TEMP	t02i090	162.2	.3156E+11	304.5	.6312E+08
14	NSOL	1236 TEMP	s04i090	162.2	.3156E+11	304.5	.6312E+08
15	NSOL	1316 TEMP	h04i090	161.9	.3156E+11	296.7	.9467E+08
16	NSOL	1368 TEMP	c04i090	160.9	.3156E+11	278.4	.1578E+09
17	NSOL	1407 TEMP	h04o090	159.6	.3156E+11	257.0	.2525E+09
18	NSOL	1264 TEMP	s04o090	130.8	.1000E-05	215.7	.9467E+09
19	NSOL	1518 TEMP	t04o090	130.5	.1000E-05	215.5	.9467E+09
20	NSOL	4057 TEMP	i04i090	31.03	.1000E-05	190.3	.1578E+10
21	NSOL	3993 TEMP	i04o090	29.20	.1000E-05	189.6	.1578E+10
22	NSOL	4484 TEMP	o04o090	26.14	.1000E-05	188.3	.1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:15 JUN 13, 1995 CP= 59333.260
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i090	88 TEMP h01o090	30 TEMP s01o090	369 TEMP t01o090	3936 TEMP ts1o090	412 TEMP t02i090
.10000E-05	307.681	302.758	291.264	291.185	291.142	291.137
.20000E-05	328.559	323.922	313.162	313.085	313.041	313.035
31.558	328.559	323.923	313.162	313.085	313.041	313.035

.31558E+07	342.580	338.147	327.896	327.820	327.777	327.770
.63116E+07	345.724	341.346	331.236	331.160	331.117	331.110
.94673E+07	347.297	342.959	332.944	332.869	332.826	332.819
.12623E+08	348.324	344.018	334.080	334.004	333.962	333.955
.15779E+08	349.028	344.750	334.877	334.802	334.759	334.752
.18935E+08	349.526	345.272	335.458	335.384	335.341	335.334
.22090E+08	349.874	345.643	335.882	335.808	335.766	335.759
.25246E+08	350.083	345.873	336.160	336.087	336.045	336.038
.28402E+08	350.212	346.021	336.354	336.281	336.239	336.232
.31558E+08	350.288	346.116	336.493	336.419	336.378	336.371
.63115E+08	349.955	345.927	336.645	336.574	336.534	336.527
.94673E+08	348.473	344.558	335.538	335.470	335.431	335.424
.12623E+09	346.979	343.159	334.361	334.294	334.256	334.250
.15779E+09	345.893	342.153	333.540	333.475	333.438	333.432
.18935E+09	343.666	340.012	331.598	331.535	331.499	331.493
.22090E+09	342.066	338.480	330.224	330.162	330.127	330.121
.25246E+09	340.494	336.973	328.867	328.807	328.772	328.767
.28402E+09	338.439	334.974	326.997	326.937	326.904	326.898
.31558E+09	336.903	333.484	325.612	325.554	325.521	325.515
.63115E+09	319.149	316.181	309.344	309.296	309.268	309.265
.94673E+09	304.909	302.301	296.293	296.252	296.229	296.226
.12623E+10	291.206	288.882	283.533	283.497	283.477	283.475
.15779E+10	278.585	276.505	271.718	271.686	271.669	271.667
.18935E+10	267.853	265.974	261.648	261.620	261.605	261.604
.22090E+10	258.490	256.780	252.840	252.815	252.802	252.801
.25246E+10	249.983	248.414	244.801	244.779	244.767	244.766
.28402E+10	243.064	241.614	238.275	238.255	238.244	238.244
.31558E+10	236.860	235.518	232.428	232.410	232.400	232.399
.63115E+10	207.828	206.989	205.057	205.046	205.041	205.041
.94673E+10	195.489	194.821	193.285	193.276	193.272	193.272
.12623E+11	188.585	188.019	186.717	186.710	186.706	186.706
.15779E+11	183.973	183.477	182.334	182.328	182.325	182.325
.18935E+11	179.694	179.253	178.239	178.233	178.231	178.231
.22090E+11	175.662	175.264	174.346	174.342	174.339	174.339
.25246E+11	171.692	171.330	170.497	170.492	170.490	170.490
.28402E+11	168.118	167.786	167.020	167.016	167.014	167.014
.31558E+11	164.986	164.678	163.968	163.965	163.963	163.963

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:15 JUN 13, 1995 CP= 59333.270
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	129 TEMP s02i090	209 TEMP h02i090	261 TEMP c02i090	313 TEMP h02o090	157 TEMP s02o090	469 TEMP t02i090
.10000E-05	291.168	295.410	290.767	275.174	254.600	254.486
.20000E-05	313.064	316.757	312.050	297.031	277.534	277.420
31.558	313.064	316.758	312.050	297.031	277.534	277.420
.31558E+07	327.797	331.119	326.383	311.824	293.090	292.977
.63116E+07	331.136	334.357	329.617	315.182	296.655	296.542
.94673E+07	332.845	336.008	331.277	316.943	298.577	298.464
.12623E+08	333.981	337.104	332.387	318.142	299.911	299.798
.15779E+08	334.778	337.869	333.168	319.003	300.890	300.778
.18935E+08	335.360	338.423	333.739	319.648	301.642	301.530
.22090E+08	335.784	338.824	334.157	320.135	302.229	302.118
.25246E+08	336.063	339.083	334.433	320.476	302.660	302.550
.28402E+08	336.257	339.260	334.627	320.732	303.003	302.893
.31558E+08	336.396	339.382	334.766	320.932	303.286	303.176
.63115E+08	336.551	339.422	334.958	321.612	304.625	304.519
.94673E+08	335.448	338.243	333.914	320.966	304.500	304.397
.12623E+09	334.273	337.008	332.797	320.186	304.159	304.060
.15779E+09	333.454	336.137	332.022	319.692	304.032	303.935
.18935E+09	331.515	334.151	330.152	318.137	302.878	302.783

.22090E+09	330.142	332.741	328.832	317.065	302.122	302.030
.25246E+09	328.788	331.350	327.527	315.995	301.352	301.261
.28402E+09	326.919	329.457	325.716	314.395	300.015	299.926
.31558E+09	325.536	328.052	324.377	313.225	299.059	298.972
.63115E+09	309.282	311.591	308.560	299.080	287.021	286.950
.94673E+09	296.242	298.353	295.800	287.627	277.220	277.159
.12623E+10	283.489	285.437	283.251	276.086	266.937	266.885
.15779E+10	271.680	273.479	271.596	265.274	257.178	257.134
.18935E+10	261.615	263.288	261.650	256.014	248.774	248.735
.22090E+10	252.811	254.375	252.935	247.866	241.348	241.313
.25246E+10	244.775	246.240	244.961	240.369	234.449	234.419
.28402E+10	238.253	239.629	238.477	234.270	228.835	228.807
.31558E+10	232.407	233.699	232.657	228.791	223.788	223.762
.63115E+10	205.046	205.905	205.321	202.986	199.940	199.926
.94673E+10	193.276	193.975	193.531	191.700	189.304	189.293
.12623E+11	186.710	187.310	186.943	185.402	183.383	183.373
.15779E+11	182.328	182.859	182.543	181.199	179.434	179.426
.18935E+11	178.233	178.708	178.433	177.245	175.683	175.676
.22090E+11	174.341	174.775	174.531	173.462	172.055	172.049
.25246E+11	170.492	170.889	170.672	169.707	168.433	168.428
.28402E+11	167.016	167.384	167.189	166.306	165.140	165.135
.31558E+11	163.965	164.308	164.130	163.316	162.239	162.234

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:15 JUN 13, 1995 CP= 59333.280
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1236 TEMP s04i090	1316 TEMP h04i090	1368 TEMP c04i090	1407 TEMP h04o090	1264 TEMP s04o090	1518 TEMP t04o090
.10000E-05	254.425	246.547	224.593	196.832	130.846	130.505
.20000E-05	277.357	269.185	247.515	220.570	157.219	156.872
31.558	277.357	269.185	247.515	220.570	157.219	156.872
.31558E+07	292.911	284.627	263.346	237.109	176.059	175.710
.63116E+07	296.477	288.172	267.007	240.980	180.546	180.198
.94673E+07	298.398	290.100	269.046	243.202	183.296	182.950
.12623E+08	299.733	291.453	270.506	244.825	185.374	185.029
.15779E+08	300.713	292.455	271.607	246.077	187.035	186.691
.18935E+08	301.465	293.231	272.478	247.088	188.422	188.081
.22090E+08	302.052	293.843	273.182	247.924	189.610	189.270
.25246E+08	302.485	294.301	273.728	248.594	190.610	190.271
.28402E+08	302.828	294.671	274.184	249.169	191.502	191.164
.31558E+08	303.112	294.982	274.578	249.678	192.319	191.983
.63115E+08	304.456	296.569	276.864	252.901	197.994	197.670
.94673E+08	304.336	296.671	277.555	254.358	201.424	201.110
.12623E+09	304.001	296.530	277.921	255.375	204.100	203.795
.15779E+09	303.877	296.566	278.377	256.371	206.470	206.173
.18935E+09	302.727	295.612	277.907	256.506	208.120	207.831
.22090E+09	301.975	295.013	277.687	256.763	209.564	209.282
.25246E+09	301.208	294.391	277.426	256.952	210.870	210.594
.28402E+09	299.874	293.198	276.563	256.494	211.404	211.134
.31558E+09	298.921	292.356	275.986	256.244	211.951	211.686
.63115E+09	286.908	281.456	267.703	251.141	214.474	214.256
.94673E+09	277.124	272.515	260.771	246.645	215.701	215.518
.12623E+10	266.855	262.907	252.711	240.450	213.769	213.612
.15779E+10	257.108	253.710	244.806	234.102	210.898	210.763
.18935E+10	248.713	245.750	237.889	228.424	207.966	207.848
.22090E+10	241.294	238.684	231.676	223.223	204.996	204.891
.25246E+10	234.402	232.080	225.770	218.145	201.732	201.639
.28402E+10	228.792	226.695	220.941	213.978	199.012	198.928
.31558E+10	223.749	221.848	216.587	210.212	196.529	196.452
.63115E+10	199.918	198.849	195.751	191.977	183.944	183.900
.94673E+10	189.287	188.476	186.074	183.138	176.894	176.861

.12623E+11	183.369	182.699	180.691	178.231	173.005	172.977
.15779E+11	179.422	178.845	177.101	174.962	170.417	170.393
.18935E+11	175.673	175.171	173.637	171.753	167.750	167.729
.22090E+11	172.046	171.602	170.229	168.538	164.945	164.926
.25246E+11	168.425	168.030	166.795	165.270	162.029	162.013
.28402E+11	165.132	164.776	163.652	162.261	159.303	159.288
.31558E+11	162.232	161.908	160.875	159.595	156.869	156.856

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:15 JUN 13, 1995 CP= 59333.290
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4057 TEMP	3993 TEMP	4484 TEMP
	i04i090	i04o090	o04o090
.10000E-05	31.0272	29.1957	26.1379
.20000E-05	74.2554	72.2866	69.1920
31.558	74.2555	72.2866	69.1920
.31558E+07	103.436	101.412	98.2533
.63116E+07	110.222	108.199	105.025
.94673E+07	114.593	112.577	109.408
.12623E+08	117.940	115.931	112.771
.15779E+08	120.661	118.659	115.509
.18935E+08	122.977	120.984	117.843
.22090E+08	124.985	123.002	119.870
.25246E+08	126.714	124.741	121.619
.28402E+08	128.281	126.317	123.206
.31558E+08	129.731	127.777	124.676
.63115E+08	140.043	138.164	135.157
.94673E+08	146.781	144.967	142.047
.12623E+09	152.087	150.329	147.484
.15779E+09	156.590	154.877	152.093
.18935E+09	160.352	158.692	155.982
.22090E+09	163.444	161.825	159.173
.25246E+09	166.260	164.679	162.082
.28402E+09	168.016	166.471	163.928
.31558E+09	169.553	168.036	165.536
.63115E+09	180.686	179.442	177.368
.94673E+09	187.913	186.870	185.120
.12623E+10	190.033	189.143	187.646
.15779E+10	190.329	189.563	188.275
.18935E+10	189.847	189.179	188.055
.22090E+10	188.838	188.249	187.256
.25246E+10	187.135	186.611	185.727
.28402E+10	185.665	185.191	184.391
.31558E+10	184.291	183.861	183.137
.63115E+10	176.618	176.375	175.965
.94673E+10	171.107	170.921	170.609
.12623E+11	168.118	167.964	167.705
.15779E+11	166.142	166.009	165.786
.18935E+11	163.959	163.843	163.648
.22090E+11	161.516	161.413	161.239
.25246E+11	158.912	158.819	158.664
.28402E+11	156.435	156.350	156.210
.31558E+11	154.209	154.132	154.003

 * Temperature Profile from center to upper right (135 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i135

*** WARNING *** CP= 59333.420 TIME= 02:43:15
 NSOL command erases all previously stored or calculated data

unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 91 ITEM= TEMP COMP= NAME= h01o135
 VARIABLE 4 IS AT NODE 16 ITEM= TEMP COMP= NAME= s01o135
 VARIABLE 5 IS AT NODE 362 ITEM= TEMP COMP= NAME= t01o135
 VARIABLE 6 IS AT NODE 3770 ITEM= TEMP COMP= NAME= ts1o135
 VARIABLE 7 IS AT NODE 1790 ITEM= TEMP COMP= NAME= t07i135
 VARIABLE 8 IS AT NODE 1565 ITEM= TEMP COMP= NAME= s07i135
 VARIABLE 9 IS AT NODE 1649 ITEM= TEMP COMP= NAME= h07i135
 VARIABLE 10 IS AT NODE 1705 ITEM= TEMP COMP= NAME= c07i135
 VARIABLE 11 IS AT NODE 1760 ITEM= TEMP COMP= NAME= h07o135
 VARIABLE 12 IS AT NODE 1580 ITEM= TEMP COMP= NAME= s07o135
 VARIABLE 13 IS AT NODE 1848 ITEM= TEMP COMP= NAME= g07i135
 VARIABLE 14 IS AT NODE 3603 ITEM= TEMP COMP= NAME= g07o135
 VARIABLE 15 IS AT NODE 4085 ITEM= TEMP COMP= NAME= i07i135
 VARIABLE 16 IS AT NODE 4025 ITEM= TEMP COMP= NAME= i07o135
 VARIABLE 17 IS AT NODE 4713 ITEM= TEMP COMP= NAME= o07o135
 Add centers of assemblies 9 and 10
 VARIABLE 18 IS AT NODE 3053 ITEM= TEMP COMP= NAME= c09i135
 VARIABLE 19 IS AT NODE 2042 ITEM= TEMP COMP= NAME= c10i135

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI	TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM AT TIME
2	NSOL	9 TEMP	c01i135	165.0	.3156E+11	350.3 .3156E+08
3	NSOL	91 TEMP	h01o135	164.5	.3156E+11	343.8 .3156E+08
4	NSOL	16 TEMP	s01o135	163.5	.3156E+11	328.5 .6312E+08
5	NSOL	362 TEMP	t01o135	163.4	.3156E+11	327.3 .6312E+08
6	NSOL	3770 TEMP	ts1o135	163.4	.3156E+11	327.1 .6312E+08
7	NSOL	1790 TEMP	t07i135	163.4	.3156E+11	327.0 .6312E+08
8	NSOL	1565 TEMP	s07i135	163.4	.3156E+11	326.4 .6312E+08
9	NSOL	1649 TEMP	h07i135	163.5	.3156E+11	326.7 .6312E+08
10	NSOL	1705 TEMP	c07i135	162.9	.3156E+11	314.1 .6312E+08
11	NSOL	1760 TEMP	h07o135	161.1	.3156E+11	284.2 .1578E+09
12	NSOL	1580 TEMP	s07o135	158.5	.3156E+11	239.7 .2525E+09
13	NSOL	1848 TEMP	g07i135	158.3	.3156E+11	237.4 .3156E+09
14	NSOL	3603 TEMP	g07o135	158.1	.3156E+11	233.0 .3156E+09
15	NSOL	4085 TEMP	i07i135	30.00	.1000E-05	189.9 .1578E+10
16	NSOL	4025 TEMP	i07o135	28.46	.1000E-05	189.1 .1578E+10
17	NSOL	4713 TEMP	o07o135	26.14	.1000E-05	188.1 .1578E+10
18	NSOL	3053 TEMP	c09i135	159.3	.3156E+11	253.8 .2525E+09
19	NSOL	2042 TEMP	c10i135	159.4	.3156E+11	254.5 .2525E+09
20	NSOL	4057 TEMP	i04i090	31.03	.1000E-05	190.3 .1578E+10
21	NSOL	3993 TEMP	i04o090	29.20	.1000E-05	189.6 .1578E+10
22	NSOL	4484 TEMP	o04o090	26.14	.1000E-05	188.3 .1578E+10

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:18 JUN 13, 1995 CP= 59335.560
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i135	91 TEMP h01o135	16 TEMP s01o135	362 TEMP t01o135	3770 TEMP ts1o135	1790 TEMP t07i135
.10000E-05	307.681	300.079	281.927	280.520	280.320	280.181
.20000E-05	328.559	321.380	304.127	302.762	302.569	302.434
31.558	328.559	321.380	304.127	302.762	302.569	302.434
.31558E+07	342.580	335.651	318.994	317.659	317.469	317.337
.63116E+07	345.724	338.877	322.404	321.079	320.891	320.759
.94673E+07	347.297	340.510	324.175	322.858	322.672	322.541
.12623E+08	348.324	341.586	325.365	324.056	323.870	323.741
.15779E+08	349.028	342.332	326.211	324.910	324.725	324.596
.18935E+08	349.526	342.868	326.838	325.543	325.360	325.231
.22090E+08	349.874	343.251	327.305	326.016	325.834	325.706
.25246E+08	350.083	343.492	327.622	326.340	326.158	326.031
.28402E+08	350.212	343.651	327.854	326.578	326.397	326.270
.31558E+08	350.288	343.755	328.029	326.758	326.578	326.453
.63115E+08	349.955	343.649	328.484	327.259	327.086	326.964
.94673E+08	348.473	342.344	327.625	326.438	326.269	326.152
.12623E+09	346.979	341.000	326.658	325.503	325.339	325.225
.15779E+09	345.893	340.039	326.013	324.884	324.724	324.612
.18935E+09	343.666	337.949	324.267	323.168	323.012	322.903
.22090E+09	342.066	336.456	323.047	321.972	321.819	321.713
.25246E+09	340.494	334.987	321.837	320.784	320.635	320.531
.28402E+09	338.439	333.021	320.100	319.067	318.921	318.819
.31558E+09	336.903	331.558	318.822	317.806	317.662	317.562
.63115E+09	319.149	314.521	303.606	302.751	302.629	302.545
.94673E+09	304.909	300.851	291.374	290.643	290.539	290.466
.12623E+10	291.206	287.599	279.241	278.604	278.513	278.450
.15779E+10	278.585	275.362	267.942	267.383	267.304	267.249
.18935E+10	267.853	264.946	258.289	257.793	257.722	257.673
.22090E+10	258.490	255.847	249.830	249.387	249.324	249.280
.25246E+10	249.983	247.561	242.083	241.683	241.626	241.586
.28402E+10	243.064	240.828	235.791	235.426	235.374	235.338
.31558E+10	236.860	234.793	230.151	229.817	229.769	229.736
.63115E+10	207.828	206.540	203.695	203.496	203.468	203.448
.94673E+10	195.489	194.466	192.220	192.065	192.043	192.028
.12623E+11	188.585	187.719	185.823	185.693	185.675	185.662
.15779E+11	183.973	183.213	181.555	181.442	181.426	181.415
.18935E+11	179.694	179.019	177.551	177.452	177.438	177.428
.22090E+11	175.662	175.053	173.729	173.640	173.627	173.618
.25246E+11	171.692	171.139	169.940	169.859	169.848	169.840
.28402E+11	168.118	167.611	166.512	166.439	166.428	166.421
.31558E+11	164.986	164.516	163.501	163.433	163.423	163.417

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:18 JUN 13, 1995 CP= 59335.570
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	1565 TEMP s07i135	1649 TEMP h07i135	1705 TEMP c07i135	1760 TEMP h07o135	1580 TEMP s07o135	1848 TEMP g07i135
.10000E-05	279.524	280.691	267.024	230.320	168.064	164.663
.20000E-05	301.799	302.592	289.016	253.932	194.965	191.708
31.558	301.799	302.592	289.016	253.932	194.965	191.708
.31558E+07	316.713	317.211	303.722	269.759	213.085	209.944
.63116E+07	320.139	320.563	307.115	273.461	217.388	214.277
.94673E+07	321.925	322.310	308.915	275.514	219.938	216.853
.12623E+08	323.128	323.490	310.153	276.975	221.822	218.760

.15779E+08	323.986	324.332	311.051	278.072	223.295	220.253
.18935E+08	324.625	324.956	311.731	278.936	224.502	221.480
.22090E+08	325.103	325.423	312.253	279.630	225.517	222.512
.25246E+08	325.430	325.742	312.624	280.162	226.346	223.358
.28402E+08	325.672	325.977	312.910	280.602	227.071	224.099
.31558E+08	325.857	326.156	313.140	280.981	227.724	224.767
.63115E+08	326.390	326.658	314.076	283.115	232.049	229.215
.94673E+08	325.595	325.856	313.646	283.654	234.343	231.606
.12623E+09	324.683	324.941	313.052	283.883	236.049	233.395
.15779E+09	324.082	324.336	312.712	284.226	237.616	235.030
.18935E+09	322.387	322.648	311.335	283.609	238.350	235.841
.22090E+09	321.208	321.472	310.402	283.275	239.077	236.628
.25246E+09	320.036	320.304	309.465	282.905	239.708	237.316
.28402E+09	318.333	318.612	307.989	281.936	239.629	237.288
.31558E+09	317.084	317.370	306.920	281.276	239.685	237.386
.63115E+09	302.141	302.502	293.753	272.120	237.429	235.526
.94673E+09	290.121	290.511	283.069	264.521	235.063	233.458
.12623E+10	278.148	278.561	272.127	255.936	230.424	229.043
.15779E+10	266.984	267.410	261.816	247.588	225.336	224.136
.18935E+10	257.438	257.872	252.951	240.315	220.651	219.595
.22090E+10	249.069	249.502	245.129	233.813	216.257	215.317
.25246E+10	241.396	241.822	237.904	227.671	211.834	210.990
.28402E+10	235.164	235.580	232.020	222.655	208.191	207.422
.31558E+10	229.577	229.978	226.731	218.136	204.892	204.190
.63115E+10	203.353	203.654	201.767	196.615	188.772	188.361
.94673E+10	191.954	192.208	190.752	186.725	180.613	180.295
.12623E+11	185.600	185.822	184.609	181.227	176.102	175.836
.15779E+11	181.361	181.561	180.509	177.561	173.100	172.870
.18935E+11	177.380	177.561	176.639	174.037	170.106	169.903
.22090E+11	173.575	173.743	172.920	170.583	167.053	166.871
.25246E+11	169.801	169.958	169.220	167.109	163.924	163.761
.28402E+11	166.386	166.533	165.863	163.935	161.027	160.878
.31558E+11	163.384	163.523	162.909	161.132	158.453	158.316

***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:18 JUN 13, 1995 CP= 59335.580
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	3603 TEMP g07o135	4085 TEMP i07i135	4025 TEMP i07o135	4713 TEMP o07o135	3053 TEMP c09i135	2042 TEMP c10i135
.10000E-05	158.182	30.0041	28.4615	26.1379	189.002	190.214
.20000E-05	185.484	73.3437	71.6141	69.1651	214.500	215.691
.31558E+07	185.484	73.3438	71.6141	69.1651	214.500	215.691
.63116E+07	203.909	102.018	100.203	97.6902	231.791	232.746
.94673E+07	208.300	108.825	107.003	104.463	235.864	236.808
.12623E+08	210.926	113.218	111.396	108.854	238.224	239.159
.15779E+08	212.876	116.584	114.765	112.224	239.953	240.883
.18935E+08	214.409	119.322	117.506	114.968	241.292	242.216
.22090E+08	215.672	121.652	119.842	117.307	242.378	243.296
.25246E+08	216.738	123.676	121.871	119.341	243.279	244.194
.28402E+08	217.616	125.414	123.616	121.092	244.005	244.913
.31558E+08	218.387	126.988	125.197	122.679	244.631	245.534
.63115E+08	219.085	128.446	126.663	124.150	245.190	246.087
.94673E+08	223.771	138.827	137.104	134.653	248.768	249.626
.12623E+09	226.355	145.620	143.952	141.561	250.465	251.292
.15779E+09	228.307	150.973	149.352	147.017	251.672	252.473
.18935E+09	230.076	155.514	153.931	151.640	252.825	253.605
.22090E+09	231.035	159.314	157.778	155.544	253.104	253.861
.25246E+09	231.939	162.434	160.934	158.744	253.475	254.211
.28402E+09	232.736	165.280	163.814	161.667	253.769	254.489
.31558E+09	232.806	167.064	165.631	163.527	253.391	254.098
	232.983	168.623	167.216	165.145	253.207	253.902

.63115E+09	231.885	179.926	178.768	177.044	248.655	249.231
.94673E+09	230.386	187.278	186.305	184.848	244.557	245.043
.12623E+10	226.398	189.488	188.659	187.413	238.623	239.043
.15779E+10	221.840	189.852	189.140	188.070	232.481	232.846
.18935E+10	217.575	189.423	188.804	187.872	226.966	227.287
.22090E+10	213.521	188.454	187.909	187.088	221.898	222.181
.25246E+10	209.376	186.788	186.303	185.574	216.926	217.181
.28402E+10	205.954	185.344	184.907	184.249	212.845	213.075
.31558E+10	202.849	183.994	183.598	183.003	209.156	209.365
.63115E+10	187.582	176.434	176.212	175.879	191.299	191.419
.94673E+10	179.692	170.961	170.792	170.540	182.587	182.679
.12623E+11	175.332	167.994	167.854	167.646	177.759	177.835
.15779E+11	172.433	166.033	165.912	165.733	174.544	174.609
.18935E+11	169.519	163.862	163.757	163.600	171.379	171.436
.22090E+11	166.526	161.429	161.335	161.196	168.197	168.248
.25246E+11	163.450	158.833	158.749	158.625	164.958	165.004
.28402E+11	160.595	156.362	156.286	156.174	161.972	162.014
.31558E+11	158.055	154.142	154.072	153.970	159.324	159.363

 * Temperature Profile from center to top of WP (180 deg.) *

VARIABLE 2 IS AT NODE 9 ITEM= TEMP COMP= NAME= c01i180

*** WARNING *** CP= 59335.710 TIME= 02:43:18
 NSOL command erases all previously stored or calculated data
 unless STORE,MERGE is used.

VARIABLE 3 IS AT NODE 13 ITEM= TEMP COMP= NAME= h01o180
 VARIABLE 4 IS AT NODE 2 ITEM= TEMP COMP= NAME= s01o180
 VARIABLE 5 IS AT NODE 390 ITEM= TEMP COMP= NAME= t01o180
 VARIABLE 6 IS AT NODE 3759 ITEM= TEMP COMP= NAME= ts5i180
 VARIABLE 7 IS AT NODE 636 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 8 IS AT NODE 516 ITEM= TEMP COMP= NAME= s05i180
 VARIABLE 9 IS AT NODE 520 ITEM= TEMP COMP= NAME= h05i180
 VARIABLE 10 IS AT NODE 524 ITEM= TEMP COMP= NAME= c05i180
 VARIABLE 11 IS AT NODE 528 ITEM= TEMP COMP= NAME= h05o180
 VARIABLE 12 IS AT NODE 517 ITEM= TEMP COMP= NAME= s05o180
 VARIABLE 13 IS AT NODE 680 ITEM= TEMP COMP= NAME= t05i180
 VARIABLE 14 IS AT NODE 872 ITEM= TEMP COMP= NAME= s03i180
 VARIABLE 15 IS AT NODE 876 ITEM= TEMP COMP= NAME= h03i180
 VARIABLE 16 IS AT NODE 880 ITEM= TEMP COMP= NAME= c03i180
 VARIABLE 17 IS AT NODE 883 ITEM= TEMP COMP= NAME= h03o180
 VARIABLE 18 IS AT NODE 873 ITEM= TEMP COMP= NAME= s03o180
 VARIABLE 19 IS AT NODE 1036 ITEM= TEMP COMP= NAME= t03o180
 VARIABLE 20 IS AT NODE 4105 ITEM= TEMP COMP= NAME= i03i180
 VARIABLE 21 IS AT NODE 3992 ITEM= TEMP COMP= NAME= i03o180
 VARIABLE 22 IS AT NODE 4679 ITEM= TEMP COMP= NAME= o03o180

STORAGE COMPLETE FOR 40 DATA POINTS

SUMMARY OF VARIABLES STORED THIS STEP AND EXTREME VALUES						
VARI TYPE	IDENTIFIERS	NAME	MINIMUM	AT TIME	MAXIMUM	AT TIME
2 NSOL	9 TEMP	c01i180	165.0	.3156E+11	350.3	.3156E+08
3 NSOL	13 TEMP	h01o180	164.6	.3156E+11	345.2	.3156E+08
4 NSOL	2 TEMP	s01o180	163.8	.3156E+11	333.5	.6312E+08
5 NSOL	390 TEMP	t01o180	163.8	.3156E+11	333.4	.6312E+08
6 NSOL	3759 TEMP	ts5i180	163.8	.3156E+11	333.4	.6312E+08
7 NSOL	636 TEMP	t05i180	163.8	.3156E+11	333.4	.6312E+08
8 NSOL	516 TEMP	s05i180	163.8	.3156E+11	333.5	.6312E+08
9 NSOL	520 TEMP	h05i180	164.2	.3156E+11	338.2	.6312E+08
10 NSOL	524 TEMP	c05i180	164.1	.3156E+11	334.8	.6312E+08
11 NSOL	528 TEMP	h05o180	163.3	.3156E+11	322.1	.6312E+08
12 NSOL	517 TEMP	s05o180	162.3	.3156E+11	305.7	.6312E+08
13 NSOL	680 TEMP	t05i180	162.3	.3156E+11	305.6	.6312E+08
14 NSOL	872 TEMP	s03i180	162.3	.3156E+11	305.5	.6312E+08
15 NSOL	876 TEMP	h03i180	162.0	.3156E+11	298.3	.9467E+08
16 NSOL	880 TEMP	c03i180	161.0	.3156E+11	281.2	.1578E+09
17 NSOL	883 TEMP	h03o180	159.8	.3156E+11	261.1	.2525E+09
18 NSOL	873 TEMP	s03o180	144.0	.1000E-05	221.6	.9467E+09
19 NSOL	1036 TEMP	t03o180	143.7	.1000E-05	221.5	.9467E+09
20 NSOL	4105 TEMP	i03i180	30.10	.1000E-05	189.5	.1578E+10
21 NSOL	3992 TEMP	i03o180	28.78	.1000E-05	189.0	.1578E+10
22 NSOL	4679 TEMP	o03o180	26.14	.1000E-05	187.9	.1578E+10

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:20 JUN 13, 1995 CP= 59338.200
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	9 TEMP c01i180	13 TEMP h01o180	2 TEMP s01o180	390 TEMP t01o180	3759 TEMP ts5i180	636 TEMP t05i180
.10000E-05	307.681	301.781	287.677	287.543	287.532	287.611
.20000E-05	328.559	322.984	309.724	309.593	309.582	309.658
31.558	328.559	322.984	309.724	309.593	309.582	309.658
.31558E+07	342.580	337.166	324.446	324.317	324.306	324.381
.63116E+07	345.724	340.373	327.817	327.688	327.677	327.751
.94673E+07	347.297	341.992	329.552	329.424	329.414	329.487
.12623E+08	348.324	343.057	330.710	330.582	330.572	330.645
.15779E+08	349.028	343.794	331.527	331.400	331.390	331.463
.18935E+08	349.526	344.321	332.127	332.000	331.990	332.062
.22090E+08	349.874	344.697	332.568	332.442	332.432	332.504
.25246E+08	350.083	344.930	332.861	332.736	332.726	332.797
.28402E+08	350.212	345.082	333.069	332.945	332.935	333.006
.31558E+08	350.288	345.181	333.221	333.097	333.088	333.158
.63115E+08	349.955	345.023	333.489	333.369	333.360	333.428
.94673E+08	348.473	343.680	332.475	332.359	332.350	332.417
.12623E+09	346.979	342.303	331.377	331.264	331.255	331.320
.15779E+09	345.893	341.314	330.622	330.512	330.504	330.567
.18935E+09	343.666	339.194	328.753	328.646	328.637	328.699
.22090E+09	342.066	337.677	327.436	327.331	327.323	327.383
.25246E+09	340.494	336.185	326.134	326.031	326.023	326.082
.28402E+09	338.439	334.200	324.313	324.213	324.205	324.262
.31558E+09	336.903	332.722	322.969	322.870	322.862	322.919
.63115E+09	319.149	315.528	307.091	307.008	307.002	307.050
.94673E+09	304.909	301.734	294.348	294.278	294.272	294.313
.12623E+10	291.206	288.383	281.826	281.766	281.761	281.797
.15779E+10	278.585	276.063	270.208	270.155	270.151	270.183
.18935E+10	267.853	265.578	260.298	260.252	260.248	260.276
.22090E+10	258.490	256.421	251.624	251.582	251.579	251.604
.25246E+10	249.983	248.087	243.698	243.661	243.658	243.680
.28402E+10	243.064	241.314	237.264	237.230	237.227	237.248

.31558E+10	236.860	235.241	231.498	231.467	231.464	231.483
.63115E+10	207.828	206.819	204.493	204.475	204.473	204.484
.94673E+10	195.489	194.688	192.841	192.827	192.826	192.835
.12623E+11	188.585	187.906	186.343	186.332	186.331	186.338
.15779E+11	183.973	183.378	182.008	181.998	181.997	182.003
.18935E+11	179.694	179.166	177.950	177.941	177.941	177.946
.22090E+11	175.662	175.185	174.087	174.079	174.078	174.083
.25246E+11	171.692	171.259	170.262	170.255	170.255	170.259
.28402E+11	168.118	167.721	166.806	166.799	166.799	166.803
.31558E+11	164.986	164.618	163.771	163.765	163.764	163.768

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:20 JUN 13, 1995 CP= 59338.210
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	516 TEMP s05i180	520 TEMP h05i180	524 TEMP c05i180	528 TEMP h05o180	517 TEMP s05o180	680 TEMP t05i180
.10000E-05	287.696	294.127	290.746	275.998	256.090	255.980
.20000E-05	309.740	315.540	312.058	297.873	279.026	278.916
31.558	309.740	315.540	312.059	297.874	279.025	278.916
.31558E+07	324.460	329.778	326.182	312.379	294.228	294.118
.63116E+07	327.829	333.025	329.414	315.730	297.780	297.671
.94673E+07	329.564	334.686	331.075	317.486	299.693	299.584
.12623E+08	330.722	335.790	332.186	318.681	301.020	300.912
.15779E+08	331.539	336.563	332.969	319.540	301.994	301.886
.18935E+08	332.138	337.124	333.541	320.182	302.740	302.633
.22090E+08	332.579	337.532	333.960	320.668	303.322	303.215
.25246E+08	332.872	337.795	334.235	321.004	303.746	303.640
.28402E+08	333.081	337.977	334.429	321.257	304.082	303.976
.31558E+08	333.233	338.104	334.569	321.453	304.359	304.253
.63115E+08	333.500	338.187	334.765	322.113	305.656	305.554
.94673E+08	332.486	337.043	333.725	321.449	305.496	305.397
.12623E+09	331.388	335.838	332.611	320.655	305.127	305.031
.15779E+09	330.633	334.991	331.839	320.150	304.977	304.883
.18935E+09	328.763	333.033	329.973	318.581	303.795	303.704
.22090E+09	327.446	331.643	328.655	317.498	303.018	302.928
.25246E+09	326.144	330.273	327.352	316.418	302.228	302.141
.28402E+09	324.323	328.400	325.545	314.812	300.877	300.791
.31558E+09	322.979	327.011	324.209	313.637	299.909	299.825
.63115E+09	307.101	310.699	308.414	299.426	299.734	299.665
.94673E+09	294.357	297.580	295.672	287.923	277.828	277.770
.12623E+10	281.835	284.757	283.139	276.344	267.468	267.418
.15779E+10	270.216	272.875	271.494	265.499	257.642	257.599
.18935E+10	260.306	262.746	261.555	256.211	249.182	249.145
.22090E+10	251.631	253.884	252.847	248.039	241.708	241.675
.25246E+10	243.705	245.793	244.879	240.524	234.774	234.744
.28402E+10	237.270	239.218	238.401	234.409	229.128	229.101
.31558E+10	231.504	233.320	232.584	228.915	224.053	224.029
.63115E+10	204.497	205.671	205.271	203.055	200.092	200.078
.94673E+10	192.844	193.790	193.491	191.752	189.420	189.409
.12623E+11	186.346	187.153	186.908	185.444	183.478	183.469
.15779E+11	182.010	182.722	182.512	181.234	179.516	179.508
.18935E+11	177.952	178.587	178.404	177.276	175.755	175.748
.22090E+11	174.089	174.665	174.505	173.490	172.120	172.114
.25246E+11	170.264	170.791	170.649	169.732	168.491	168.486
.28402E+11	166.808	167.294	167.168	166.329	165.193	165.188
.31558E+11	163.772	164.225	164.111	163.337	162.287	162.283

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:20 JUN 13, 1995 CP= 59338.220
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	872 TEMP s03i180	876 TEMP h03i180	880 TEMP c03i180	883 TEMP h03o180	873 TEMP s03o180	1036 TEMP t03o180
.10000E-05	255.923	248.813	228.375	202.767	143.982	143.715
.20000E-05	278.856	271.454	251.311	226.463	170.156	169.883
31.558	278.856	271.454	251.311	226.463	170.156	169.883
.31558E+07	294.057	286.500	266.655	242.426	188.042	187.769
.63116E+07	297.610	290.027	270.287	246.249	192.399	192.126
.94673E+07	299.523	291.942	272.300	248.432	195.049	194.776
.12623E+08	300.850	293.283	273.739	250.023	197.039	196.768
.15779E+08	301.824	294.276	274.823	251.244	198.620	198.350
.18935E+08	302.571	295.043	275.678	252.226	199.933	199.664
.22090E+08	303.154	295.648	276.367	253.037	201.052	200.784
.25246E+08	303.579	296.096	276.896	253.678	201.982	201.715
.28402E+08	303.915	296.456	277.336	254.226	202.805	202.540
.31558E+08	304.193	296.758	277.715	254.712	203.557	203.293
.63115E+08	305.495	298.280	279.887	257.739	208.724	208.469
.94673E+08	305.340	298.328	280.484	259.037	211.748	211.501
.12623E+09	304.976	298.143	280.771	259.921	214.085	213.845
.15779E+09	304.828	298.142	281.161	260.807	216.173	215.938
.18935E+09	303.651	297.145	280.616	260.819	217.514	217.286
.22090E+09	302.877	296.511	280.336	260.976	218.712	218.490
.25246E+09	302.091	295.859	280.020	261.075	219.793	219.575
.28402E+09	300.742	294.640	279.111	260.539	220.132	219.919
.31558E+09	299.777	293.778	278.497	260.226	220.523	220.313
.63115E+09	287.626	282.656	269.820	254.482	221.524	221.351
.94673E+09	277.737	273.544	262.586	249.495	221.624	221.478
.12623E+10	267.390	263.807	254.298	242.927	218.866	218.742
.15779E+10	257.576	254.500	246.196	236.267	215.323	215.215
.18935E+10	249.125	246.448	239.121	230.340	211.860	211.766
.22090E+10	241.657	239.305	232.774	224.931	208.455	208.372
.25246E+10	234.728	232.640	226.762	219.687	204.843	204.769
.28402E+10	229.087	227.205	221.845	215.384	201.843	201.776
.31558E+10	224.016	222.312	217.413	211.497	199.110	199.049
.63115E+10	200.071	199.120	196.238	192.734	185.448	185.413
.94673E+10	189.404	188.685	186.452	183.726	178.060	178.033
.12623E+11	183.465	182.873	181.006	178.722	173.977	173.955
.15779E+11	179.504	178.995	177.374	175.387	171.260	171.241
.18935E+11	175.745	175.303	173.877	172.127	168.492	168.475
.22090E+11	172.111	171.720	170.444	168.874	165.611	165.596
.25246E+11	168.484	168.137	166.989	165.574	162.630	162.617
.28402E+11	165.186	164.874	163.830	162.539	159.851	159.839
.31558E+11	162.281	161.998	161.038	159.850	157.374	157.363

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***** ANSYS - ENGINEERING ANALYSIS SYSTEM REVISION 5.0A *****
 38303 VERSION=HP 9000/7XX 02:43:20 JUN 13, 1995 CP= 59338.230
 FOR SUPPORT CALL ROBERT BAHNEY PHONE (702) 794-5337 FAX (702) 794-1844

21 PWR UCF/WP at 100 years

***** ANSYS POST26 VARIABLE LISTING *****

TIME	4105 TEMP i03i180	3992 TEMP i03o180	4679 TEMP o03o180
.10000E-05	30.1003	28.7806	26.1379
.20000E-05	73.2053	71.7952	69.1381
31.558	73.2054	71.7952	69.1381
.31558E+07	101.307	99.8570	97.1270
.63116E+07	108.093	106.644	103.902
.94673E+07	112.479	111.035	108.300

.12623E+08	115.842	114.403	111.677
.15779E+08	118.577	117.144	114.427
.18935E+08	120.907	119.479	116.772
.22090E+08	122.932	121.511	118.812
.25246E+08	124.668	123.254	120.565
.28402E+08	126.240	124.832	122.152
.31558E+08	127.697	126.296	123.625
.63115E+08	138.083	136.737	134.148
.94673E+08	144.888	143.588	141.075
.12623E+09	150.255	148.995	146.549
.15779E+09	154.808	153.580	151.187
.18935E+09	158.624	157.435	155.106
.22090E+09	161.754	160.594	158.315
.25246E+09	164.615	163.482	161.252
.28402E+09	166.415	165.308	163.125
.31558E+09	167.987	166.901	164.755
.63115E+09	179.390	178.500	176.720
.94673E+09	186.824	186.077	184.576
.12623E+10	189.101	188.464	187.180
.15779E+10	189.518	188.970	187.865
.18935E+10	189.131	188.654	187.689
.22090E+10	188.193	187.773	186.920
.25246E+10	186.555	186.181	185.421
.28402E+10	185.132	184.793	184.107
.31558E+10	183.799	183.492	182.869
.63115E+10	176.320	176.147	175.794
.94673E+10	170.872	170.740	170.471
.12623E+11	167.919	167.809	167.586
.15779E+11	165.967	165.872	165.679
.18935E+11	163.804	163.721	163.553
.22090E+11	161.378	161.304	161.153
.25246E+11	158.787	158.721	158.586
.28402E+11	156.321	156.261	156.139
.31558E+11	154.104	154.049	153.938

***** ROUTINE COMPLETED ***** CP = 59338.240

End of batch input file

PURGE ALL SOLUTION AND POST DATA
SAVE ALL MODEL DATA

ALL CURRENT ANSYS DATA WRITTEN TO FILE NAME= ucf21ss.db
FOR POSSIBLE RESUME FROM THIS POINT

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NUMBER OF WARNING MESSAGES ENCOUNTERED= 64
NUMBER OF ERROR MESSAGES ENCOUNTERED= 0
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*****
                        ANSYS RUN COMPLETED
*****

REV. 5.0 A                                HP 9000/7XX

CP TIME      (sec) =      59341.590      TIME = 02:43:24
ELAPSED TIME (sec) =      60100.000      DATE  = 06/13/95

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